THE

FEMININE MONARCHIE

OR

A TREATISE CONCERNING BEES, AND THE DVE ORDERING OF THEM.

Wherein

The truth found out by experience and diligent observation, discovereth the idle and fond conceipts, which many haue written anent this subiect.

By

CHAR: BVTLER Magd.

At Oxford,

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THE PREFACE
to the Reader.

He great naturalist, to expresse the excellencie of the nature of Bees, saith thus, *Inter omnia insecta principatus apibus et iure pracipua admiratio; solis ex eo genere hominũ causâ genitis*. Of all *insecta* the Bees are chiefe, and worthily to bee most admired; beeing the only thinges of that kinde, vvhich are bred for the behoose of men. The later part of which saying although the delicat Silk-worme haue else-where disproved, and is now setting foot in this lãd, here also to except against it; yet must shee needs confesse the former, and, when shee is come, yeelde the precedence to the laborious Bee, as to hir elder sister; which as in time, so in vertue is before her. For the fruite of the Silke-worme serveth onlie to cover the bodie; but the fruite of the Bee to nourish and cure it: that is to bee applied outwardly, this to be invvardly received: that for comlinesse and conveniency, this for health & necessitie. But, to omit comparison, the worke and fruit of the little Bees is so great and won-

derful, so comely for order and beauty, so excellent for art and wisdome, and so full of pleasure and profit; that the contemplation thereof may well beseeme an ingenious nature. And therefore not vvithout cause are the Bees called the Muses birds.

Var. l. 3. ca. 16.

The loue of which did so ravish *Aristomachus* and *Philiscus*, that, as *Plinie* reporteth, they were pleased to spend most of their time in this pleasing busines. *Nequis* (saith hee) *miretur amore earum captos Aristomachum Solensem duodesexaginta annis nihil aliud egisse; Philiscum vero Thasium in desertis apes colentem Agriũ cognominatũ: qui ambo scripsere de his.* *Aristotle* thought his *Historia animaliũ* vnperfect, vnles he had inserted a tract of the nature of Bees: of which hee discourseth more at large, then he doth of any other living creature. *Plinie* likewise in his *Naturalis historia* is very copious in this argument. Besides whom, divers other haue written therof: as *Columella*, *Varro*, *Palladius*, *Averroes*. Yea the learned and graue fathers of the Church *S. Ambrose* and *Isidore* haue thought it a subiect fit for their pẽns. Vnto which I may adde infinite others of later times both in Latine & English; which haue written many things of these admirable creatures.

Nat hist. li. 11.

But in al their writings they seeme vnto me to say little out of experience, and to rely more vpon the relation of others; then anie certaine

know-

knowledge of their owne. Notvvithstanding in some of them, specially in *Aristotle* & *Plinie*, are scatered many true and good observations; which, being found agreeable to experience, I haue here and there, as occasion required, for authority and ornament interlaced. But the later writers, imitating the ancient where they thought good, choosing some of their directions and refusing others, doe, for the most part, vnluckely light vpon the worse: so that, being compared, they are no way matchable vnto them; whome by the advantage of time they might haue surpassed. Among which *Georgius Pictorius* a learned Physitian deserveth best, as having taken most paines in pervsing the ancient authors, and gathering their matter into his methode. Whom one *T. H.* of London translating word for word into English as wel as he could, cōcealing the authors name, adventured to publish in his owne name. These and the like whē a scholar hath throughly read, he thinketh himselfe throughly instructed in these mysteries: but when he cōmeth abroad to put his skil in practise, every silie woman is ready to deride his learned ignorance.

VVherefore considering hovve greate the vertue and efficacy of the fruite of these creatures is, both for the preserving, and restoring of mans health, I thought it not amisse to spend some by-time for my recreation, in searching *V. c. 10. p. 3.*

ching out the nature & properties of Bees, that I might know how to do good vnto thē, which are so good for vs, and what is the due & righte ordering of these delightful, profitable, and necessary creatures. And having to my contentment, though to my cost, in some sort attained my desire, I was incited, evē by the rule of charity, to communicate that to my neighbours & countrymen, which I haue found so beneficiall to my selfe: so that the reader may now freely reape the fruit of that, which the author hath deerely sowen vnto him.

De generat. an. l. 3. c. 10.

The Philosopher intreating of the breeding of Bees, professeth himselfe vncertaine of their sex: and therefore, willing in this vncertainty to grace so worthy a creature with the worthier title, he every where calleth their governor Βασιλεύς, or *Rex*. As many as followed him, searching no farther then he did, were contente to say as he said. So that I am enforced (vnlesse I wil choose rather to offend in *rebus* then in *vocibus*) by their leaue and thine (learned reader) to straine the common significatiō of the word *Rex*, and, in such places, to translate it *Queene*, sith the males heer beare no sway at al, this being an *Amazonian or feminine kingdome. v.*

Vt. 4. n. 20. & 21.

In distinguishing the times of the yeer, I vse the Astronomical months as most natural and fitting to my purpose; beginning each month with the day that the sun entreth into his sign,

and

& giuing the name of each signe to his month; because the most notable thinges concerning Bees, which are to be observed in them or to be done for thē, fal out in the beginnings of these months. Where note that by the name of each month, is commōly vnderstood the first day of the same month (namely wheresoever this preposition *at* is set before it) except only where it followeth the preposition *in* or *after*, or otherwise the sense doth plainely shew that it is spoken of the whole month.

I am out of doubt that this book of *Bees* wil in his infancy lie hiddē in obscurity, as the book of *tropes and figures* did for a while go vnregarded, without friends or acquaintāce: But as that did by litle & litle insinuat it selfe into the loue & liking of many schooles, yea of the Vniversity it selfe, where it hath been both privatly and publikely read (a favor which this mother doth seldome afford to hir owne children, least happily shee should seeme too fond over them) so this will in time travaile into the most remote partes of this great kingdome of great *Britaine*, and be entertained of al sorts both learned and vnlearned: although the *Muses* birdes are fittest for the *Muses*, & the knowledge of their long-hiddē secrets was chiefly published for the *Muses* friends. *Quibus me, quicquid sum, & studia mea dico. Wotton. Iul. 11. 1609.*

CHAR: BVTLER.

Ad Authorem.

Qui fuerint apium fructus, apiumq; labores,
Sedulo dum pleno grammate penna docet;
Pene fatigata nemo est qui, Carole, *penna,*
Et libri fructus non notet inde tui.

Mellea Nestoreo defluxit ab ore loquela:
Et, Butlere, *tua mellea penna manu.*
Labris viva semel, iam mortua, Nestoris hæc vox
Scilicet in libris est tumulata tuis.

Incipis ex apibus, sed & in mel desinis ipsum:
Suaviter inceptum suavius exit opus.

WARNERVS SOVTH, Iurista
Novi Collegij Socius.

To the Author.

THough learned Authors old and new,
Haue handled skilfully
The argument thou hast in hand,
Yet none so fruitfully.
For they relate vncertaine things
Which bare report had blowne:
But thou set'st downe the certaine truth
By thine experience knowne.

To the Reader.

The chiefest cause, to read good bookes,
That moues each studious minde
Is hope, some pleasure sweet therein,
Or profit good to finde.
Now what delight can greater be
Then secrets for to knowe,
Of Sacred Bees, the Muses Birds,
All which this booke doth shew.
And if commodity thou craue,
Learne here no little gaine
Of their most sweet and sov'raigne fruits,
With no great cost or paine.
If pleasure then, or profit may
To read induce thy minde;
In this smale Treatise choice of both,
Good Reader, thou shalt finde.

Omne tulit punctum, qui miscuit vtile dulci.

A. Cresley.

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The contents of this Booke

MY Booke of Bees I divide into 10 Chapters.

1 The first, of the nature and properties of Bees, & of their Queene

2 The second, of the placing of them, & of their seats.

3 The third, of their hiues, & the dressing of them.

4 The fourth, of the breeding of Bees, & of the drone.

5 The fift, of their swarming, and the hiuing of them.

6 The sixt, of their worke.

7 The seauenth of their enimies.

8 The eighth, of remouing them.

9 The ninth, of feeding them.

10 The tenth of the fruit and profit of them.

The Contents of the first Chapter.

1 *Bees yeeld great profit with smale cost.*

2 *Every Country fit for Bees.*

3 *Bees abhorre idlenesse.*

4 *Bees haue a common wealth.*

5 *Their working, watching, fighting, dwelling, diet, wealth, and young are al in common.*

6 *Bees alwaies loial to their Soueraigne.*

7 *Bees endure no government, but a Monarchie.*

8 *The description of the Queene-Bee.*

9 *Bees haue also inferiour gouernours or captaines.*

10 *Which are knowne by peculiar markes.*

11 *Two sorts of Bees.*

12 *The parts of a Bee.*

13 *Hir hornes.*

14 *Hir fangs.*

15 *Hir tongue, with the parts of it.*

16 *Hir foure wings.*

17 *Hir feete.*

18 Hir

18 Her two weapons.
19 Her fangs, commonly used against insects.
20 Her speare sometime.
21 Stinging preferes death to Bees.
22 The speares commonly used against other creatures.
23 Haire and feathers cause the Bees to sting.
24 Woole and wollen doe not offend them
25 Fustian, leather, and velues naught among Bees.
26 The Bees in their anger aime at the head.
27 When any is stung the company must be gon.
28 The Bees have the worst when they sting.
29 They loose their sting and entrals, & consequently their lives
30 The speare of it selfe pearceth deeper when the Bee is gon.
31 How to prevent the paine and swelling.
32 Nothing but time can cure their stinging.
33 What things the Bee-master must avoid.
34 The six properties of a Bee-master.
35 Safer to walke, then to stand among Bees.
36 The fittest time to stirre about Bees is in the morning.
37 In the heate of the day they are most angry.
38 How to be armed when the Bees are angry.
39 Bees dangerous to cattaile.
40 The Bees senses.
41 Their sight dim.
42 Their smelling very quicke.
43 Hearing and feeling.
44 Tasting.
45 Their virtues.
46 Fortitude.
47 Prudence and knowledge.
48 A strange tale conterning the knowledge, and devotion of Bees.
49 Temperance.
50 Iustice.
51 Chastity.
52 Cleanlinesse.
53 The age of Bees.

54 The difference betweene yong Bees and olde.
55 The offices of the yong Bees.
56 And of the old.
57 Bees wont eft-soones to play.
58 They are soone killed with cold.
59 How to revive them.

The Contents of the second Chapter.

1 Of five things requisit in a Bee-garden, the first is that it bee nigh at hand.
2 That it be safly fenced from cattaile, and windes.
3 The north and east fences should be high.
4 The south and west fences must be also good, but not so high, as to hide the sun from the hives.
5 In rough winds the Bees need a skreene.
6 That is be sweet.
7 Neither very cold in winter, nor over hot in sommer.
8 A gratie ground is best, ever kept norse and dry.
9 Besset with trees and bushes.
10 Two sorts of seats.
11 The benches not so good as single stooles.
12 Swarmes may be set on benches.
13 Wooden stooles better then they of stone.
14 The size of stooles.
15 Which way the stooles should be set.
16 How neere to the fence.
17 How neere to each other.
18 How neere to the ground.
19 How to be footed.

The Contents of the third Chapter.

1 Two sorts of hives.
2 Strawne hives, with their inconveniences & remedies.
3 Wicker-hives, with their inconveniences and remedies.
4 Strawne-hives best.

5 The

5 The size of hiues.
6 When hiues are to be made.
7 How hiues are to be dressed, before they receiue the swarmes.
8 The pruning of hiues.
9 The spraying or splicing of them.
10 The seasoning of them.
11 The seasoning of an old hiue.
12 How hiues are to be ordered, when the Bees are in them.
13 The hiues alwaies wel hacled.
14 How to make a hacle.
15 The working of the cap.
16 The bignesse of the hacle.
17 The length of it.
18 The girale.
19 The hiues alwaies close cloomed,
20 Then seldome to be moued
21 How a hiue lifted vp is to be set downe againe.
22 The bignesse of the hiue-dore.
23 The making of the barre.
24 The vse of it.
25 The making of the porch.
26 The vse of it.
27 The making of the porch-dore
28 The vse of it.
29 The greese. (MINI
30 How to order the Bee-hiues in every month, and first in GE.
31 CANCER
32 How to make the Bees swarme.
33 How to keepe them from swarming.
34 How to keepe full stalles from killing their yong.
35 LEO.
36 Fasten the barre to the dore.
37 VIRGO.
38 To keepe the hiues from robbing.
39 Set vp the porch to the weaker.
40 And keepe them shut til they offer to goe abroad.
41 How hiues not ful are to be vsed against cold & robbers.

42 The reared stalles now to be set downe againe.
43 In Virgo try whether the Bees will liue.
44 LIBRA.
45 Try them againe in Libra, &c.
46 Now set up the porches to the best, & keepe them all shut til the Bees offer to go abroad.
47 Now take the combes.
48 SCORPIO.
49 Cōtinue the shutting & opening of the porch this mōth also.
50 How to dresse the hiues for winter.
51 SAGIT. CAPRIC. AQVAR. are 3. dead months.
52 How the Bees spend their time in them.
53 The first sharp weather in Capr. shut the Bees in.
54 And in pleasant weather let them loose, if it may be, once in a fortnight or 3. weekes.
55 PISCES.
56 The 1. faire day in Pisces set your Bees at liberty.
57 Now cleanse the stooles.
58 And driue light stalls.
59 ARIES: The second chiefe robbin-g time
60 In TAVR: remoue the porches.
61 In GEMINI the barres.

The contents of the fourth Chapter.

1 The drone no labourer.
2 The drone is the male-Bee.
3 Diuers reasons proving the drone to be the male. The first reason is, that they are suffered in breeding time only.
4 No drone in winter.
5 The second reason is that, the drones being taken away in breeding time, the Bees breed no more.
6 The third reason is that they are bred by the Bees.
7 The fourth reason is that the Wasps and Dorres haue drones which are their males.
8 The breeding of Wasps by drones.
9 The breeding of Dorres by drones.

10 The

10 The fift reason is the apparent signes of their sex.
11 When the Bees begin to breed.
12 The manner of their breeding.
13 The Bee-seed is first turned into a worme.
14 The worme being dead groweth to the shape of a Bee, & then liveth againe.
15 The breeding of the lady-bees.
16 When the drones are bred.
17 When they come abroad.
18 Two vses of the drones.
19 Where they lie.
20 The male-bees are subiect to the females.
21 When the Bees leaue breeding, & beat away their drones.
22 The Bees compared to the Amazons.
23 They rid not their drones all at once.
24 When forward Hallies begin.
25 When the backward.
26 When full stockes that haue not swarmed.
27 When those that are ourrswarmed.
28 The drones first banished are welcome to other hiues.
29 In the end they are all killed.
30 Some die in the hiue.
31 But most abroad.
32 Somtime the Bees cast out even the white Cephens.
33 Timely ridding of drones a good signe.
34 Sometime they rid their drones in the spring.
35 And afterward breed new againe.

The Contents of the fift Chapter.

1 The parts of a swarme.
2 When you may see the queene-bee.
3 The swarme no yonger then the stocke.
4 Many drones in a swarme a good signe.
5 A kinde spring for swarmes.
6 Swarming-weather.
7 The swarming-howres.

8 The two swarming months.
9 Rathe swarmes.
10 Late swarmes.
11 Blackbery-swarmes are seldome to be kept.
12 A prime-swarme and an after swarme naturall.
13 A stalle may cast 4 times.
14 Divers causes of breaking the prime-swarme.
15 One prime-swarme worth three after-swarmes.
16 The vulgar Bees appoint the rising of the fore-swarmes, and that upon 4. grounds.
17 Fiue signes of the first swarming.
18 The signe of present swarming.
19 To ly forth continually is a signe they will not swarme.
20 How to remedy their lying forth.
21 The signes of after swarmes.
22 The rising of the after-swarmes is appointed by the rulers.
23 When they begin to call or sing.
24 The Bees musicke.
25 When you may best heare it.
26 Before the Bees swarme, the voices come downe to the stoole.
27 The manner of their swarming.
28 The prime-swarme being broken, the next may call & swarm within the eighth day
29 All the swarmes of one hiue come within a fortnight.
30 What to do when a swarme is vp.
31 Some swarmes provide them houses afore hand.
32 And then they flie away directly to the place.
33 Vacua alvearia stent semper parata in apiario.
34 The hiving of Bees.
35 When they are to be hived.
36 The token of their flying away after they be setled.
37 How to fit the hiues to the swarmes.
38 How to make your stalls great.
39 A Mantle a Rest and a Brush alwaies in a readines.
40 What the hiver must doe.
41 The manner of hiving.
42 Howe to hiue a swarme that lighteth vpon a low bough.

43 How

43 How if it light vpon a high bough.
44 How if it light vpon a bough that cannot be cut.
45 How if it light vpon the body of a tree.
46 How if it light vpon the top of any thing.
47 How if it light in the middle of a dead hedge.
48 How if it light on some hollow side of a stub, or tree.
49 How if it fly into a hollow tree.
50 The swarme is alwaies to bee kepte together, lest the Bees kill one another.
51 The swarme to be set neere the lighting place.
52 What to do if a swarme part.
53 When and how to put two swarmes togither.
54 How to staie a swarme that is going home againe.
55 How to keepe them from other hiues, vvhen they are going home.
56 What to doe when the swarme is new-hived.
57 How to remoue it in the evening.
58 How to set it on his seat.
59 How to vse it in the morning.
60 A swarme lighting neere his seate is presently to be set thereon.
61 Fowle weather the first day doth much discourage a swarme.
62 A swarme may liue fiue daies without hony.

The Contents of the sixt Chapter.

1 Bees most industrious creatures.
2 In three months they cannot worke
3 All the yeere after they loose no time.
4 How they gather waxe.
5 How you may see the working of the combes.
6 How much waxe they bring at once.
7 The fashion of their combes and celles.
8 The drone-combe.
9 The queenes celles are built single in diuers places.
10 In fashion round.
11 The common error anent these celles.

12 The

12 The combes haue 3 colours successiuely.
13 Wax is gathered only in 4 months.
14 Hony in 9.
15 The Bees gather 2 sorts of hony.
16 How ambrosia or grose hony is gathered.
17 Ambrosia some seruetb to feed the seadons: some is wrought with nectar and laid vp in store.
18 Ambrosia alone is soone corrupted.
19 And then becommeth most vnsauory stopping.
20 Much stopping maketh the Bees forsake their hiues.
21 This Ambrosia is commonly taken for wax.
22 Which error is disproued by sense.
23 And reason.
24 And by authoritie.
25 How the pure nectar is gathered.
26 At the first the Bees lay vp meere nectar: afterward they mix it with Ambrosia.
27 Nectar of two sorts. Stone-hony and line-hony.
28 Line-hony of two sorts. Virgin hony. Second hony.
29 The full cells they close with wax.
30 After Leo they lay vp no hony.
31 Nectar and ambrosia made of many simples, whereof each month yeelleth variety.
32 Dandelion continueth longest.
33 What Pisces yeelldeth.
34 What Aries.
35 Taurus.
36 Gemini.
37 Cancer.
38 Of hony-dewes.
39 The Bees worke most earnestly in a hony-dew.
40 What the hony-dew is.
41 When the hony-dewes are most frequent,
42 The time when they fall.
43 Leo.
44 Virgo.
45 Libra.

47 Scorpio

46 Scorpio.
47 The Bees gather but of one kind of flowre in one voiage.
48 They gather hony out of poison.
49 What store of hony a stalk may haue.
50 Bees haue necessary vse of water.
51 Chiefly for their breed.
52 The making of the watering-place.
53 How to find wild Bees.
54 The fashion of a watring trough.
55 After a shewre they water at home.

The Contents of the seauenth Chapter.

1 The Bees enimies are many.
2.1 The mouse.
3 How to knowe when a mouse is in the hiue.
4 Remedies against the mouse.
5.2 The wood-pecker.
6.3 The Tit mouse.
7.4 The swallow.
8 Remedy against the titmouse and swallow.
9.5 The hornet.
10 The hornets sting is dangerous.
11.6 The waspe.
12 The waspe at first feedeth vpon dead Bees.
13 As Virgo she stealeth hony.
14 How long the wasps last.
15 In what veere the waspes are most rife.
16 Remedies against the waspes.
17.7 The moth.
18.8 The snaile.
19.9 The emet.
20.10 The spider.
21.11 The toad.
22.12 The frog.
23.13 The Bee the Bees greatest enimie.
24 Robbing or fighting of Bees in winter & sommer but little.

25 In

25 In the spring more earnest.
26 The most spoile is made in Virgo.
27 What stalles are most subiect to robbing.
28 The robbers are the lustiest staller.
29 How they begin the fray.
30 Theeues of diuers hiues agree together in robbing.
31 The description of the Bees battaile.
32 In the battaile is heard a sound like a drum and a flute.
33 The assault of the enimy.
34 The defence of the beseeged.
35 Neither side willing to yeeld.
36 The exercise of the defendants, when the enimie retireth.
37 The Wasps like vultures.
38 The battaile ended, they bury their dead.
39 The second assault of the enimie.
40 When the true Bees yeeld, they goe with the conquerors.
41 Remedies.
42 To prevent robbing.
43 And to stay it, if you find it in time.
44 When it is too late, and what is then to be done.
45 In what yeeres robbing is most rife.
46 Bees kill poore swarmes that wander in the spring.
47 To prevent the death of poore swarmes.
48. 14 The weather.
49 In summer heate hurteth the Bees.
50 In winter the sun-shine in frost and snow.
51 Also the easterne winds and great frosts.
52 And the cold continued maketh them sicke.
53 The raine rotteth the hiues.
54 The remedy.
55 The greatest losse by weather is in the spring: for then infinie multitudes are beaten downe laden & wearie, with stormes & winde.
56 At the rising of a cloud they post home.
57 Yet wil they goe a field in the midst of a warme shower.
58 How to restore Bees to life.
59 The wind causeth many to be drowned.

The Contents of the eighth Chapter.

1 Remoue Bees in a faire day.
2 Not in sommer.
3 Nor in winter.
4 The fittest time is in the autumne and spring.
5 Libra the best month in all the yeere.
6 The time of the day and manner of removing.
7 The vsuall manner of removing.
8 Which is fit for poore Stalles.
9 How a good stall is to be carried.
10 How a bad.
11 What to doe when they are brought home
12 And what when they are seated.

The Contents of the ninth Chapter.

1 What Bees are to be fed.
2 When they cease to lay vp in store.
3 When and how long they spend on the stocke.
4 Some are stored for a longer time, some for a lesse.
5 The vsuall time of feeding.
6 The vsuall manner of feeding.
7 This late feeding often faileth.
8 Yet it may saue such as haue some store.
9 How to saue those that haue no store in the spring.
10 How to feed Bees without hony.
11 The best time of feeding.
12 The benefit of rathe feeding.
13 Bees are to be fed according to their want.
14 What proportion, of hony to the Bees, is requisit.
15 The best manner of feeding.
16 The fittest time of the day for it, is the evening.
17 The second feeding-time.
18 The third time of feeding, if need be.
19 A generall caueat.

The

The Contents of the tenth Chapter. Part. 1.

1 The first kind of vindemiation.
2 The best time of killing Bees.
3 What stalls are to be taken.
4 The manner of killing Bees.
5 Sundry meanes to kill Bees.
6 How to take the combes when the Bees are dead.
7 Bees not to be killed when some are abroad.
8 The second kinde of vindemiation.
9 The time and manner of driving Bees.
10 How to take the combs.
11 This driving of Bees vnprofitable.
12 The hony taken is little and naught.
13 And the Bees driven few and poore.
14 An other kinde of driving.
15 At two times.
16 First driving in Libra.
17 The manner of driving in Libra.
18 How to revive those that are chilled in driving.
19 How to helpe those driven Bees that want.
20 Second driving in Pisces.
21 A third kind of vindemiation.
22 Exsection vsed at two times.
23 What part to be exsected, is vncertaine.
24 Exsection ancient, but not profitable. Neither first,
25 Nor second.
26 Specially for our Country.

Part second.

1 The comber to be broken into three parts.
2 The dressing of the first part for hony.
3 The first shoot is fine hony.
4 How to know good hony.
5 The best hony in the bottome.
6 Corne-hony the best.

7 The secōd shoot is course hony.
8 Corne-hony got out by water or fire.
9 Must make but one shoot & so mar all.
10 The working of hony, & how to help it.
11 The dressing of the 2. part for meth.
12 How to make the liquor.
13 How to know whē it is strong enough.
14 What proportion of water to hony
15 How and how long the liquor must be boiled.
16 A receipt of spice to be added.
17 Boiling diminisheth the quantity, and increaseth the strēgth.
18 How to set it a working.
19 The proportion of Lobel.
20 His receipt of spice.
21 Metheglen.
22 The Queenes metheglen.
23 The dressing of the third part for waxe.
24 First boile it with water.
25 Then straine it.
26 Next make it into balls.
27 Last of all melt it and make a cake.
28 How to know good waxe.

Part. thirde.

1 The properties and vertues of hony.
2 As wel outwardly as inwardly received.
3 For whom hony is best.
4 English-hony.
5 Too much hony unholsome.
6 The different operations of raw and boiled hony.
7 Two waies to clarifie hony.
8 How to clarifie stone-hony.
9 The quintessence of hony.
10 The virtues of it.
11 The making of it.
12 The virtue of hony in confections.

13 Marmalade

13 Marmalade made of hony.
14 Marchpane.
15 Preseues.
16 Conserues.
17 Syrups. Syrup of Roses. Syrup of violets.
18 Hony to be preferred before sugar.
19 Hony good in outward medicines.
20 A salue for an old sore.
21 Another.
22 The properties and virtues of Meth & Metheglen.
23 Meth much vsed of the ancies Brittaines.
24 Whence Meth hath his name.
25 The properties & virtues of naturall wax.
26 Artificial wax.
27 To make white wax.
28 To makered wax.
29 To make greene wax.
30 Oile of wax.
31 The vertues of it.
32 The making of oile of waxe.
33 The vertue of waxe in compound medicines.
34 A cerecloath.
35 A cereloath to refresh the sinews & muscles.
36 A cerecloath to comfort the stomach.
37 A salue for a greene wound.
38 Another.

A TREATISE CONCERning BEES, and the due ordering of them.

Of the nature and properties of Bees, and of their Queene.

CHAP. 1.

AMong all the creatures which our bountifull GOD hath made for the vse and service of man, in respect of (1) great profit with small cost (2) of their vbiquity or beeing in al countries, and (3) of their cōtinual labour and consenting order, the Bees are most to be admired. For first with the provision of a hiue and some little care and attendance, which need be no hinderance to other busines, but rather a delightful recreatiō amid the same, they bring in store of sweete delicates most holesome both for meate and medicine,

1 *Bees yeelde great profit with smal cost.*

Fructus apum ab omnibus desideratur, & quaeritur: nec pro personarum diversitate discernitur, sed indiscreta sui gratia regibus pariter ac mediocribus aequali suavitate dulcescit: nec solùm voluptati, sed etiam Ambrosius Hex amer. 5. cap. 21.

Pli nat.hist l.11.c.5.

salutiest. And another saith, *Mille ad vsus vitæ laborem tolerant & opera conficiunt* : as they wel know who know the rare vertues of hony and waxe: a taste whereof I wil give you in the last chapter. Secondly whereas *non omnis fert omnia tellus*, some country yeeldeth one fruit, some another, some beareth one graine, some an other some breedeth one kinde of cattle, some an other: there is no ground of what nature soever it be, whether it be hot or colde, wet or drie, hil or dale, woodland or champian, meddow, pasture, or arable: in a word whether it be battle or barrē, which yeeldeth not matter for the Bee to worke vpon. And thirdly in their labor and order at home and abroad they are so admirable, that they may be a patterne vnto men both of the one and of the other. For vnlesse they be let by wether, weaknes, or wāt of matter to worke on, their labour never ceaseth. In admiration whereof one saith, *Quos efficacia industriaq, tantæ comparemus nervos? quas vires? quos ratione medius fidius viros?* & for their order it is such that they may wel be said to haue a cōmon wealth, since al that they do is in cōmō without any privat respect. *Nihil norunt nisi commune*: They work for al, they watch for al, they fight for al. In their private quarrels when they are from the hiue or common treasury, howsoever you vse them they wil not resist, if by any meanes they can get away. *Cum ruri sint, nec sibi invicem*

2 *Every country fit for bees.*

3 *Bees abhorre idleneße.*

Plin. nat. hist.l.11.c.5

4 *Bees haue a cōmō wealth*

Nat hist. l. 11.c.5.

5 *Their working, watching, fighting, dwelling, diet wealth and yōūg ones are al in cōmon.*

invicem, nec vllis alijs nocent; at verò apud suos alveos pugnant acerrimè: their dwelling and diet are common to al alike: they haue like commō care both of their wealth and young ones. Arist. hist. anim. lib. 9. cap. 40.

Sola in omni genere animantium communem omnibus sobolem habent, vnam omnes incolunt mansionem, vnius patriæ claudunturlimine, in commune omnibus labor, communis cibus, communis operatio, communis vsus, & fructus est. And al this vnder the government of one Monarch, of whom aboue al things they haue a principal care & respect, loving, reverencing, and obeying her in al things. Ambr. Hex. lib. 5. ca. 21.

6 *Bees alwaies loial to their soveraigne.*

Præterea regem non sic Ægyptus & ingens
Lydia, nec populi Parthorū aut Medus Hydaspes
Observant: rege incolumi mens omnibus vna est:
Amisso rupere fidem: constructaq; mella
Diripuere ipsæ, & crates solvêre favorum
Ille operum custos, illum admirantur: & omnes
Circumstant fremitu denso, stipantq; frequentes,
Et sæpe attollunt humeris, & corpora bello
Obiectant, pulchramq; petunt per vulnera mortem. Virg Geor.

If she goe forth to solace her selfe, (as sometime she will) many of them attend vpon her, garding her person before and behind; they which come forth before her ever now & thē returning, and looking back, and making withall an extraordinarie noise, as if they spake the language of the knight Marshalls men, & so away they fly together, & anon in like man-

ner they attend her back againe. This I may say because I haue seene it: although the Philosopher be of another minde *Reges*, saith hee, *nunquam foris visuntur, nisi cum migratur*. If by hir voice she bid them goe, they swarme; if being abroad she dislike the weather, or lighting place, they quickly returne home againe; while she cheereth thē to battaile they fight *v*, when she is silent they cease, while she is well, they are cheerefull about their worke, if she droope, they faint also: if she dy, they will never after prosper, but thenceforth languish till they bee dead too. *Rege mortuo maret plebs ignava, non cibos convehit, non procedit, tristi tantum murmure glomeratur circa corpus eius*. But if they haue many Princes, as when two fly away with one swarme, or when two swarmes are hived together; they strike one of them presently, and sometime they bring her downe that evening to the mātle, *v*. where you may find hir covered with a little heape of Bees, orherwise the next day they carie her forth either dead or deadly wounded. Likewise if the olde Queene bring forth many Princes (as she may haue six or seven, yea sometime halfe a skore or more which superfluitie nature affordeth for more suretie, in case some miscarrie) then lest the multitude of rulers should distract the vnstable commons into factions, within two daies after the last swarme, you shall finde them that remained, dead

Hist. an. l. 9. cap. 40.

Vid. c. 7. n. 32.

Nat. hist. li. 11. c. 17.

7 *Bees endure no government, but a Monarchie.*

v. c. 5. n. 39

dead before the hiue: I haue taken eight of thē vp together brought out of one hiue, whē two were already gon forth with their swarmes. For the Bees abhorre as well polyarchie, as anarchie, God hauing shewed in thē vnto mē an expresse patterne of a perfect monarchie, the most natural & absolute forme of governmēt.

8 *The description of the queene-Bee.*

The Queene-bee is a Bee of a comely and stately shape, browne of colour as other Bees, but that her belly is more bright: she is longer thē a honi-bee, by one third part, that is almost an inch long: she is also bigger then a honi-bee but not so big as a drone, although somwhat lōger: hir head proportionable, but that it is more roūd thē the little Bees, by reason hir fanges be shorter; hir tonge not halfe so long as the little Bees: for whereas they gather with one nectar, with the other ambrosia, shee hath no need to vse either, beeing to bee maintained, as other Princes, by the labor of hir subiects; hir wings of the same size with a smal Bee, & therefore in respect of hir lōg body, they seeme very short, for they reach but to the middle of hir nether part: hir legges, proportionable, and of the colour of hir belly, but hir two hin-legges more yellowe: hir nether part so long, and halfe so long as hir vpper part, more picked thē a smale Bees, and without such three whitish ringes as other Bees haue at the three partitions: the speere she hath is but little, and not halfe so

long as the other Bees: which, like a kings sword, is borne rather for shewe and authoritie, then for any other vse: For it belongeth to her subiects as well to fight for her, as to provide for her. *Plinie* writeth thus doubtingly of it. *Nõ constat inter authores rex nullumne solus habeat aculeum, maiestate tantum armatus, an dederit eum quidem natura, sed vsum eius illi tantũm negaverit; illud constat imperatorem aculeo non vti.* But *Arist*; doth truely approue the later opinion as certaine: *Reges aculeos habent, sed non vtuntur. Quocirca carere eos aculeis nonnulli existimant.* If you desire to see this stately Prince, read ca. 5. n. 27 *Plinie* describeth the Queene-bees thus, *Omnibus forma semper egregia, & duplo quam cæteris maior, pẽna breviores, crura recta, ingressus celsior, in frõte macula quodam diademate candicans: Multum etiam nitore à vulgo differunt.*

Nat. hist. li. 11. cap. 17.

Hist. an. l. 5. cap. 21.

Nat. hist. l. 11. c. 16.

9 *Bees haue also inferior governours or captaines.*

Besides their soveraigne the Bees haue also subordinate governors and leaders, not vnfitly resembling Captaines & coronels of soldiers: For differẽce from the rest they beare for their crest a tufte or tossel in some coloured yellow, in some murrey, in maner of a plume; whereof some turne downward like an ostrich-feather, others stand vpright like a hearn-top. And of both sorts some are greater, and some lesse, as if there were degrees of those dignities among them. In all other respects they are like to the vulgar. These I think are they that *Plinie* mea-

10 *Which are knowne by peculiar markes.*

neth, where he saith, *circa regem satellites quidã, lictoresq, assidua custodes authoritatis.* In lesse then a quarter of anhoure you may see three or foure of them come forth of a good stale; But chiefly in *Gemini* before their continuall labour haue worne these ornaments. So that he might well say *Rempublicam habent, consilia, ac duces.* Al which he that seriously considereth must with admiration acknowledge that singular wisdome, order, and government in thẽ, which in no other creature, man only excepted (if yet to be excepted) is to be found; whence some haue inferred a farther matter

Nat. hist. li. 11. c. 17.

Plin. Nat. hist. li. 11. c. 5.

His equidem signis atq, hac exempla sequuti,
Esse apibus partem divinæ mentis, & haustus
Æthereos dixêre.--

Vir. Geor. 4

11

Aristotle maketh two sortes of Bees, the one (which is best) short, divers coloured, & round; the other long like vnto waspes. *Optimum genus apum quæ breves variæ & in rotunditatem compactiles, secunda quæ longa & vespis similes.* And in another place he putteth a difference betweene wilde and tame, saying, *Differunt inter se apes parentibus natæ vrbanis & quæ rustico montanoq, victu educatis prodierint: sunt enim hæ sylvestres horridiores aspectu, & iracundiores, & minores, sed opere & labore præstantiores.* Whom *Plinie* followeth almost verbatim, saying, *Apes sunt etiam rusticæ sylvestresq, horridæ aspectu, multo iracundiores, sed opere ac labore præstantiores. Vrbanarum duo gene-*

Two sorts of Bees.

Hist. l. 5. c. 22.

Hist. l. 9. c. 40.

Nat. hist. li. 11. c. 18.

ra: optimæ breues, variæ, & in rotunditatem compactiles; deteriores longæ, & quibus similitudo vesparum etiamnum deterrimæ ex ijs pilosæ. But these differences my experience hath not found, neither doe I see how they can be, seeing the swarmes of tame Bees doe often fly into trees, & so become wilde: and the swarmes of wild Bees are not seldome found, and put into hiues. Indeed the wild are more angry thē the tame: but that is because they are lesse vsed to the companie of men. Moreover there is some difference in the bignesse of Bees. For they that are loaded seeme greater and longer then those that are leere: also the Nymphs *v:* when they come first abroad are not growne to their full bignesse which afterward they haue, and the old ones doe wither, and become little againe. *v:* Likewise in these three ages their colours also doe varie: for in their middle age they are browne, whereas before they are more pale. *v.* and at the last they turne whitish againe, *v.* But these are differences of Bees in the same stall, & not of one stall from another, since these diverse sorts are in every stall.

v.c.4.n.17.

v.n.54.

v.c.4 n.14.

v.n.54.

12 *The parts of a Bee.*

The severall parts of a Bee haue their several vses. Hir hornes growing in the middle of hir fore-head, with two iointes, one close to the head, the other towards the middle, so that she can put them forth at full length when she wil, and drawe them in againe close to her head,

13 *Hir horne*

serue

serue to giue warning in the darke, and when shee is busie, of any thing quicke or dead that might offend her.

For gathering hir provision shee hath two instruments, hir fangs and hir tongue: hir fangs in fashion of a paire of pincers, hang not, as the iawes of other things one over an other, but side way one against the other, as is most convenient for hir vses. 14 *Hir fangs.*

Hir tongue is of that length, that hir mouth cannot hold it, but being doubled betweene hir fangs vnder hir chinne, it reacheth to the necke. It is divided into three parts: whereof the two outmost serue as a case to cover the third, which being the chiefe, the Bee in hir worke putteth forth beyond the other, & draweth in againe as she wil. And this third part is likewise parted into three, so that there are fiue in all. 15 *Hir tongue with the parts of it.*

To set these instruments on worke, nature hath furnished her with fowre winges, which swifter then the East-winde carry her into all the fowre coasts of the world, and thence with hir pretious lading beare her backe againe, vntill hir incessant labour hath worne thē out. *v.* 16 *Her fowre wings.* *v.n.54.*

Hir rough and deuclawed feete apt to take hold at the first touch are in number six, that she may stand fast vpon fowre, while she vseth the other two to wipe hir eies, hir wings, hir tongue, or any other part, and to convay the 17 *Her feete.*

ga-

v.c.6 n. 16. gathering of hir fanges to hir thighes. v.

18 *Her two weapons.*

For hir defence shee is doubly weaponed. Hir fanges she vseth when she is not much angry, against al *insecta*, as other Bees, Drones, Waspes, &c. therewith pinching and holding them commonly by the legs or wings, & sometime by the hornes: but this is rather a chiding, then a fighting, & a warning, rather then a punishment, though with al sometime shee bend hir speere against them, as if shee would kil & slay.

19 *Her fanges commonly v. sed against insecta.*

20 *Her speer sometime.*

Hir speere she is very loth to vse, if by any other meanes she can shift hir enimy, as knowing how dangerous it is to hir selfe: for if shee chance therwith to strike any hard part, as the brest or shoulder, she is enforced to leaue hir speere behinde her, and so she killeth & is killed with the same stroke. Yet when the Bees are very angry; as namely whē they are assalted with a multitude of robbers at once, v. or when in the spring a hungry stall forsaking his owne home presseth into their hiue, v. they fal sodainly vpō thē with their poisoned speeres (*Apibus natura cuspides dedit, & quidē venenatas*) but then they make short worke: for by that time they haue put vp their weapōs, some die presētly, others loosing the vse of their wings tūble on the ground like mad things, vntil in a while they loose their liues too: others whē they are woūded rū away in great hast (as having their errand

v.c.7.n.34.

v.c 7.n.46.

Nat.hist. li. 21.c.13.

21. *Stinging present death to Bees.*

errand) either drawing on the groūd one or mo of their legs, or doubling their nether part toward the ground, or turning the same awry to the one side or the other: but as many as are striken, within an howre after will not be able to wagge out of the place, and within two or three at the most, they wilbe quite dead. I haue looked on, while thus they quickly cut of a whole stale, and among the rest, making then no difference, they spared not the Queene her selfe. After this maner doe they deale with the drones at the time of the yeare, when they wil not otherwise be beaten away.

But their speares or stings they vse chiefly against things of other sort, as men, beastes, and fowles, which haue outwardly some offensiue excremēt, as haire or feathers, the touch wherof provoketh them to sting; although such stinging be alwaies mortall to thē selues (as anon is shew'd *v*) for the skin hauing receiued the sting holdeth it so fast, that when they would be gon they leaue both it and part of their entralls which are fastned to it. *Aculeum apibus natura dedit ventri consertum*, If they light vpon poultry although their desire be to the quicke, if they can quicklie come at it, yet will they put forth their speers as soone as they touch the feathers and if they chance to hit the hard part thereof the sting sticketh fast, as in the skin: and therefore goose wings are naught to be vsed in the hiving of Bees, *v*.

22 *The speares commonly vsed against other creatures*

23 *Haire & feathers cause the Bees to sting.*

v.n. 27. 28. Nat. hist. l. 11. c. 18.

v.c. 5. *n.* 45.

Like-

Likewise if they light vpō the hair of your head or beard, (saue only when they come home loden, or the weather is colde) they wil sting if they can reach the skin, although woole and wollen do not offend them: & if being otherwise angered they strike their speeres in woollen, they can easily pul them out againe: But the nap of new fustian displeaseth thē, because it seemeth hairy, and the stuffe is so fast, that it holdeth the sting. Wherefore such apparel is not fit among Bees: as also lether in gloues or otherwise, for assone as they touch it they wil strike, if they bee any whit mooved, and their speeres they cannot recover againe. Velvet in facing of hats or elsewhere doth anger them as much as any thing, making them strike assone as they touch it: but it hath not power to hold their speere. When they are angrie their aime is most commonly at the head, and chiefly about the eies as knowing that there they may do most harme, for that part swelleth most and longest: and yet I never heard that anie ever stung the very eie, as if they were forbiddē to touch that teader part. But the bare hande that is not very hairy, they will seldome or never sting, vnlesse they be much offended.

24 *Woole and wollen do not offend them.*

25 *Fustian leather, & velvet naught among Bees.*

26 *The Bees in their anger aime at the head.*

When you are stung, or any in the company, yea though a Bee haue strikē but your clothes, specially in hot wether, you were best be packing as fast as you can: for the other Bees smelling

27 *When any is stung the cōpany must be gone.*

ling the rancke ſavour of the poiſon caſt out with the ſting wil come about you as thicke as haile: ſo that fitly and liuely did he expreſſe the multitude & fiercenes of his enimies that ſaid *They came about me like Bees.* Then is there no way to appeaſe them but flight, the more you reſiſt the fiercer they are. They are like vnto incorrigible ſhrews: there is no dealing with them but by patience, though when they ſting they are ſure to haue the worſt. For the wound endangereth nether life nor limb: two nights ſleepe wil take awaie the ſwelling, and two minutes the paine (vnleſſe it be in verie reumatik or humorous bodies: of which ſorte I haue knowne ſome ſo ſwollen and diſfigured with that little ſtroke, that you could ſcarce knowe them by their favour in fiue or ſix daies after.) But on the other ſide, whereas the waſpe, hornet, and dorre, do ſting often without any hurt to themſelues, the Bee never ſtingeth but once and then ſhee leaveth hir ſpeere and entrals, more or leſſe behinde her, *animamq; in vulnere ponit.* (*Intereunt quæ percuſſerint, quoniam ſine inteſtini eruptione aculeus eximi non poteſt*). For within fowre and twentie howres after, or, if much of hir entrals come forth with the ſting, within halfe that time ſhee dieth: But the ſpeere reteining life when the Bee is gone, if it be not preſentlie pulled out, will worke it ſelfe into the fleſh vp to the hard end, & ſo cauſe the paine and

28 *The Bees haue the worſt when they ſting.*

29 *They looſe their ſting and entrals & conſequẽtly their liues*

Virg. Georg. Hiſt. an. l. 9. c. 40.

30 *The ſpeere of it ſelfe pearceth deeper when the Bee is gon.*

and swelling to bee both greater and longer. Therefore when you are stung, instantlie wipe of the Bee, sting and all, & wash the place with your spittle: so shal you prevent both paine & swelling, which otherwise nothing but time cā cure: for the poison is so subtill that it quicklie pierceth the flesh, and the wound so little that no antidote can followe after: and yet I haue heard commended for a remedie the ioice of houseleeke, of rue, of malows, of ivie, of a marigold leafe, of holyhock and vineger, of sault & vineger, and divers other things.

31 *How to prevent the paine and swelling.*

32 *Nothing but time cā cure their stinging.*

But if thou wilt haue the favour of thy Bees that they sting thee not, thou must avoid such things as offend them: thou must not be (1) vnchast or (2) vncleanly: for impurity & sluttishnes (themselues being most chast and neate,) they vtterly abhorre: thou must not come amōg thē (3) smelling of sweat, or having a stinking breath caused either through eating of leekes, onions, garleeke, and the like; or by any other meanes: the noisomnes whereof is corrected with a cup of beere; and therefore it is not good to come among them before you haue drunk: thou must not be givē to (4) surfeting & drunkennes: thou must not come (5) puffing & blowing or sweating vnto them, nether hastily stirre among them, nor * violently defend thy

33 *what things the Bee-master must avoid.*

* Which not only increaseth their anger (specially in hote wether, *v.n* 37; but inciteth others to take their partes: and if by striving and striking you chance

to kill one, the Bees presently perceiving it by the strong smell of the humour (for shee smelleth then as if shee had stunge, *v.n.27.*) wilbe so eger vpon revenge, that by no meanes can they bee pacified vntill they haue the field.

selfe when they seeme to threaten thee; but softlye mouing thy hand, before thy face gently put them by, and lastlie thou must be (6) no stranger vnto them. In a word thou must bee chast, cleanelie, [b] sweet, sober, quiet, and familiar: so wil they loue thee, and know thee from all other.

34 *The six properties of a Bee-master.*

[b] Not wearing any ostensiue apparel., *v.n.27.*

At any time, when nothing hath angred thē one may boldly walke along by your Bees: but if he stand still before them within the space of a pearch in the heate of the day, it is maruaile but one or other spying him from the hiue wil haue a cast at him.

35. *Safer to walke thē to stand among Bees*

If you haue any thing to doe about your hiues, the fittest time is in the morning, before the sun be hot, or otherwise in cold, wet, or windie wether, for then they will not sting, vnlesse they be much provoked. They are also very gentle in the evenings; but then being wearie if you stand in their way you trouble their lighting, and cause them to fall, & if you make them come forth when they are housed for al night, they can hardly see to get in againe. *v.*

36 *The fittest time to stirre about Bees is in the morning.*

v n.41.

But about noone in hot weather, and specially when they haue tasted of the honidewes, they

37 *In the heat of the day they are most angry*

they are soone angrie, and very eager. Wherefore if at such time, you haue occasion to trouble them, or to come among them being already chafed, cover your face with cipres or boulter, hauing a handkerchiefe betweene it and your forehead to beare it out from the skin, & your hat on your head to hold it fast, so shall you saue your face and yet see what you doe: & if they be so earnest, that you feare stinging your hands, put on a paire of wollen gloues, & so are you armed at all points.

38 *How to bee armed when the Bees are angrie.*

Vnto cattaile which haue not the reason by flight or otherwise to saue themselues they are more dangerous. A horse in the heate of the day looking over a hedge, on the other side whereof was a staule of Bees, while hee stood nodding with his head, as his maner is, because of the flies, the Bees fell vpon him and killed him. Likewise I heard of a teeme that stretching against a hedge overthrew a staule on the other side, and so two of the horses weree stung to death. I doubt not but through negligence many such mischāces haue happēed elsewhere. For this thing hath beene long since obserued by that great philosopher. *Necant* (saith he) *vel maxima animalia ictu sui aculeum iam equus occisus ab apibus est.*

39. *Bees dangerous to cattaile.*

Arist. hist. an. l. 9. c. 40

Quamvis non sint membra quæ, velut carina, sensus inuehant, esse tamen his auditum, olfactum, & gustatum, eximia præterea natura dona, solertiam & animum

40 *The Bees senses.*

Nat. hist. li. 11. c. 4.

animum, artem quis facile crediderit. Of all the 5. senses their sight seemeth to be weakest: and weaker when they come home loaded, then when they are leere, and being loaded weaker on foot then when they are flying. If, whē they come home loadē, they light beside the dore, they will goe vp and downe seeking for it, as if they were in the darke: & vnlesse by chance they hit vpon it, they must fly againe before they can finde it. As many as fall beside the stoole when it waxeth darke, ten to one they ly abroad all night: yea if at such time being troubled by any thing they come forth from the stoole, though then they be fresh and lusty they wil leape vp and downe, runne and fly to and fro, till they be weatie; but by no meanes can they finde the way in againe. And therefore is it that when they fly abroad, they take such paines at the doore in rubbing and wiping their glazen eies, that they may the better discerne their way forth and back. 41 *Their sight dim.*

But their smelling is excellent, whereby, when they fly aloft in the aier, they wil quickly perceaue any thing vnder them that they like, as hony, or tarre, though it be covered: as soone as the honi-dew is falen, they presently winde it, though the Okes that receiue it *v.* be a far off: which the Poet, speaking of the excellencie of some creatures in this sense before others, doth thus expresse 42 *The smelling very quick.* *V.c.6.n38.*

Lucret.l.4. ----*Idcoq; per auras*
Mellis apes, quamvis longè, ducuntur odore.

And by this sense they finde out any strange Bee, which is not otherwise to be knowne frō their owne company, & that in the dark hiue: where, when they are disposed, they will by the same meanes cull out the drones, yea and pull out the cephens that are shut vp in the cells, not medling with any of their own sex.

43 *Hearing & feeling*

Their heareing and feeling are very quicke. If you touch their hiues but lightly, they presentlie perceiuing it, make a generall noise: although *Aristotle* doubt whether they heare, or not. *Quanquam incertum est an audiant.* But if they did not heare, to what purpose is that musicke made in the hiues, before the swarming? *v.c.5.n.23.*

Hist.an.l.9. cap.40.

44 *Tasting*

And of their fist sense I make no question, sithens they are vsed to things of so different tasts: although there may seeme the lesse vse of it, because their smelling is so perfect.

45 *Their virtues*

And such are their outward senses. The inward faculties of their mindes are farre more excellent. In valour and magnanimitie they surpasse all creatures: there is nothing so huge and mightie that they feare to set vpon, and when they haue once begunne, they are invincible: for nothing can make them yeeld but death: so great hearts doe they carrie in so little bodies. In private wronges and iniuries done to

46. *Fortitude.*

their

their persons (for which cause men will soonest quarrell) they are verie patient: but in defence of their Prince and common-wealth they doe most readilie enter the field, *& corpora bello obiectant, pulchramq; petunt per vulnera mortem.* v. whereby appeareth their singular fortitude, no lesse then their prudence doth in the governement of their Common-weale. v. beside which, their wisedome and knowledge in other matters is verie much, as of their enimies, of their fellows and friends, of the drones, whē they haue too manie, and when they neede them not at all, also of the times and seasons of the yeare: for after swarming time is past, though the hiue be neuer so full and the weather never so faire, they will not rise: whereas before, the stormie and vncertaine weather cā hardlie keepe them in. Their wit and dexteritie, as well in gathering as in working their sweetes, is not to be imitated. v. Moreover, as skilful Astronomers, they haue foreknowledge of the weather. *Prædivinant enim ventos imbresq; & tunc septeraq; continent tectis.* Item, *Præsagiunt apes & hyemem & imbres.* And in stormy & windie weather it is a wonder to see what cunning those that are abroad doe vse to shift the wind when they come home loaden: how they flie alow by the ground, among the bushes, in the lanes, and the lee sides of the hedges. *Iuxta terram volant in adverso flatu vepribus hebetato.* But

v.n.5.

47 *Prudence & knowledge.*

v.not.4 5 6. & 7.

v.n.6.

Pl.nat.hist. l.11.c.10. Ar.hist. an. l.9.c.40.

Nat.hist. li. 11. c.10.

But aboue all, one excellent skill they haue, which the most excellent femals, though much they desire it, must yeeld themselues to want: for they knowe certainelie when they breed a male, and when a female: which thing appareth by this, that they laie their cephen-seedes in a wide combe by them selues, *v.* and the Nymph-seedes in the rest, which are of a smaler size. *v.* So that what wanteth in the sight of their eies, is fullie supplied in the sight of their minde. *Cum sit infirma robore apis, valida est vigore sapientiæ & amore virtutis.* And yet I haue read of a greater knowledge then all this: How there were Bees so wise and skilful as not only to descrie a certaine little God, though hee came among them in likenesse of a wafer-cake; but also to build him an artificiall Chappell. If I should relate the storie al mē, I knowe, would not beleeue it; notwithstanding because every man maie make some vse of it, you shall haue it.

v.c.6.n.8.

v.c.6.n.7.
Ambr. Hex. l.5.c.21.

48 *A strange tale concerning the knowledge & devotion of Bees.*

A certaine simple womā having some stals of Bees which yeelded not vnto her hir desired profit, but did consume & die of the murraine; made hir mone to another woman more simple then hir selfe: who gaue her councel to get a consecrated host or round Godamighty and put it among them. According to whose advise she wēt to the priest to receiue the host: which when she had done, she kept it in hir mouth, & being come home againe she tooke it out and

put

put it into one of hir hiues. VVherevpon the murraine ceased, and the hony abounded. The woman therefore lifting vp the hiue at the due time to take out the honie, sawe there (most strange to be seene) a chappel built by the Bees with an altar in it, the wals adorned by marvelous skil of architecture with windowes conveniently set in their places: also a dore and a steeple with bels. And the host being laid vpō the altar, the bees making a sweet noise flew round about it.[c]

[c] Tho Bozius de signis Eccles. lib. 14. c. 3.

But whether this doe more argue the supernatural knowledge and skil of the Bees, or the miraculous power of the host, or the spiritual craftines of him, whose comming is by the working of Satan with al power and signes and lying wonders, it may be some wil make a question: and presuming to examin every particular circumstance over narrowly, wil make obiections against the truth of the story: which, by their leaues, in the behalfe of my author I must not spare to answere. First it may be they will obiect that the host being held so long in the womans mouth could not choose in that space but melt and marre. Indeed, if it did remaine, as it was, a wafer-cake, this were likely enough: but being turned into flesh it is an absurd assertion. If they shal say that because, it was now honi-harvest, at which time good stals, such as this was, are ful of wax and hony, that therfore

there could not be roome enough for a chappel with a steeple and bels in it; I answere that this is as weake and simple as the former. For seeing it is knowne that a blacke smith of Lōdon did make a locke and a key so little that a flie could draw it; why shoulde not the little smith of Nottingham (whose art is thought to excel al art of man) frame a little chappell in a litle roome? But then perhaps they wil reply, if we grant you this, howe then could the Bees flie about the altar in that little chappel, seeing they are not able to flie in so narrow a roome as the empty hiue? As for that, it may be a mistaking of a word: happily the woman said they did but crawle. If they shal aske how the womā could see the altar with the host stāding in the chancel & the bels hanging in the steeple, seeing the waxen wals were not transparent, they maie easilie thinke that the Bees woulde giue their dame leaue to looke in at the windowes. And if they shal say that those bels being made of such metall would giue but a weake sounde whē they were runge to matins; they must cōsider the parishioners dwelt not far of. And so I thinke these captious criticks wil hold themselues satisfied.

Vnto this storie my author immediatly addeth an other, like vnto it, and as likely: how certaine theeues hauing stollen the siluer boxe wherein the wafer-Gods vse to lie, & finding one

one of them there, being loath, belike, that he ſhould lie abroad all night, did not caſt him away, but laid him vnder a hiue: whom the Bees acknowledging advãced to an high roome in the hiue, and there in ſteede of his ſilver boxe made him an other of the whiteſt wax: & when they had ſo done, in worſhippe of him, at ſet howres they ſung moſt ſweetly beyond al measure about it: yea the owner tooke them at it at midnight with a light and al. Wherewith the biſhop being made acquainted, came thither with many others: & lifting vp the hiue he ſaw there neere the top a moſt fine box, wherein the hoſt was laid, and the quires of Bees ſinging about it, and keeping watch in the night, as Monkes do in their cloiſters. The biſhop therfore taking the hoſt caried it with the greateſt honour into the church: whether many resorting were cured of innumerable diſeaſes.

I doubt not but ſome incredulous people wil quarrel this ſtory as wel as the former, making queſtiõ ſince the combs in the top of the hiue are not paſt halfe an inch one from an other, how there could bee roome for a box of that breadth that would containe the hoſt, & then being there, how it might be ſeene by the Biſhoppe, ſeeing thoſe ſpaces are alwaies filled with Bees, and the ſtory ſaith that they were then ſinging about it: and therefore perhaps they wil ſuſpect the whole narratiõ, ſuppoſing

it rather to be an vnadvised devise of some idle monk, which, if he had consulted with them that haue skill among Bees, might haue made his tale more probable. Alleadging moreover that therefore there is no mention made of any particular person, time, or place, least the circumstances should disproue the matter it selfe. All which obiectiõs I could as easily answere as the former, if I thought it needful. But now because some may bee as ready to mistrust my relation, as others are to obiect against the truth of the stories, I wil here in mine owne behalfe for their satisfaction set them downe in my authors owne words.

Cum mulier quadam simplicis ingenij nonnulla apum alvearia possideret, neq; illa redderent expetitũ fructum, sed lue quadam tabescentes morerentur; de consilio alterius fœminæ simplicioris, accessit ad sacerdotem perceptura eucharistiam: quam sumptam tamen ore continuit, domumq; reversa extractam collocavit in vno ex alvearijs. Lues cessavit, mella affluebant. Itaq; suo tempore mulier, apertis, vt mel educeret, alvearijs, vidit (miranda res) ex ædificatum ab apibus sacellum, constructũ altare, parietes miro architecturæ artificio suis fenestris appositè suis locis ornatos, ostium, turrim, cum suis tintinabulis: eucharistiam verò in altari repositam circumvolabant suavi susurro perstrepentes apes.

Nam miranda canunt, sed non credẽda Poetæ.

The other he reporteth thus. *Quidam fures, vt argenteum vasculum in quo condita erat eucharistia*

ristia auferrent, & illam secum rapuerunt: sacratissimum vero C. corpus sub alveari proiecerunt. Post aliquot dies dominus alvearis videt apes certis horis sæpius, dimissis operis ad cibos convehendos, totos esse in quodam mellifluo concentu edendo. Cumq; forte de media nocte exsurrexisset, conspicatur supra alveare illustrissimam lucem, suauissimeq; præter omnē modū modulantes apes. Res novitate inusitatâ, & prorsus admirandâ perculsus Deiq; monitu intimo agitatus rem defert ad Episcopum. Is plurimis secum assumptis eo se conferens aperto alveari videt Vasculū elegantissimum effectum è candidissima cera prope alvearis fastigiū, in quo reposita erat eucharistia, circa illud choros apum circumsonantes, & excubias agentes. Acceptum igitur Episcopus sacramentum maximo cum honore in templum reportauit: quo multi accedentes ab innumeris sunt morbis curati.

In which storie we may note, besides the wonderfull knowledge and devotion of the Bees, an incredible power and vertue also. For this God which they kept and compassed, is said to haue the gift of healing, which others though of as good a making, wee knowe doe want. The conclusion, which my author necessarily inferreth herevpon, is better then all the rest. *Ex his necesse est dicamus in Eucharistia verū C. corpus esse.* But if thou wilt grant me that hereby is proued the incredible knowledge & skill of the Bees, for my part I wil vrge thee no farther.

In

49 *Temperance.*

In the pleasures of their life the Bees are so moderate, that perfect temperance seemeth to rest only in them.

50. *Iustice.*

Also, in their owne common wealth, they are most iust, not the least wrong or iniurie is offered amōg them. But indeed I cānot much commend their iustice towards strangers, for all that they can catch is their owne: vnlesse they may bee excused in this respect, that the Bees of divers hiues are at deadly feud, or rather as kingdomes, that are at defiance one with an other. *v. c. 7. n. 23.*

51 *Chastitie*

Amb. Hex *l. 5. c. 21.* Georg.

Their chastitie is to bee admired. *Integritas corporis virginalis omnibus communis. Illum adeo placuisse apibus mirabere morem, quod non concubitu indulgent, &c.* They ingender not as other liuing creaturs: onlie they suffer their drones among them for a season, by whose masculine virtue they stranglie conceiue and breed for the preservation of their sweet kind. *v.* Which strange kind of breeding the Philosopher acknowledgeth in them to bee apparent vnto sense and reason. *Cum in genere piscium talis quadam sit generatio nonnullorum, vt sine coitu generēt; hoc idem in apibus etiam euenire videtur quoad sensus ratioq; apparens admoneat.*

v. c. 4. n. 2.

Generat. an. l. 3. c. 10.

52 *Cleanlinesse*

Hist. an. l. 9. cap. 40. Nat. hist. li. 11. c. 10.

For cleanlinesse and neatnesse they maie be a mirror to the finest dames. *Mundissimum omnium hoc animal est.* For neither will they suffer anie slutterie within, if they maie goe abroad, a-

molinu-

amoliuntur omnia è medio, nullaq; inter opera ſpurcitia iacent: nether can they endure anie vnſauorineſſe without nigh vnto them. *Odere fœdos odores*: And for their perſons (which are louelie brown) though they be not lōg about it yet are they curious in trimming and ſmoothing them frō top to toe, like vnto ſober matrones, which loue as well to goe neate as plaine: pied and gariſh colours belōg to the waſp, which is good for nothing but to ſpend and waſt. Hiſt an. l. 9. c. 40.

53 *The age of Bees*

Anent the age of Bees there are divers opinions: ſome thinke that they maie liue 4, or 5 yeares, yea ſome 6, or 7. (*neq; enim plus ſeptima ducitur æſtas. Ariſtotle* ſpeaketh of a longer time *Vita apum annis ſex, nonnullæ etiam 7, poſſunt complere: quod ſi examen 9, aut decem annos duraueritprosperè actum eſſe exiſtimatur.* Which opinions are grounded vpon this, that they ſee their ſtall ſometimes continue ſo long, before the Bees die altogether: but this continuance is onlie by ſucceſſion: and ſo might they liue in *ſeecula* if the rottennes of their combes and the noiſome ſtopping would ſuffer them to abide the hiues, *Nam genus immortale manet.* But the truth is, a Bee is but a yeares birde, with ſome advantage. For the Bees of the former yeare, which vntill *Gemini* in the next yeare doe looke ſo youthfullie that you cannot diſcerne them frō their ful growne nymphes which that ſpring they haue bread, do from thence forth chang

Georg 4. Hiſt. l. 5. c. 22.

Georg. 4.

change with manifest difference: for the yong Bees continue great, ful, smooth, browne, wel-winged; the old waxe little, withered, rough, whitrish, ragged-winged; and withal so feeble, that when they come loded home, if any thing stande in their way, yea many times, though there be nothing, they fal downe, and beeing loded cannot rise againe: & then either a little colde, or wet in the day, or the nights dew killeth them: you may daily finde, specially in *Cãcer* and *Leo*, some dead, some halfe dead before the hiues, & some aliue & lustie, which yet can never rise againe. Some of them will holde out so long, till their wings are more then halfe worne: but by *Libra* you shal scarce see one of them least.

55 *The offices of the young Bees.*

The yong Bees as best able, beare the greatest burdens: for they not only worke abroad, but also watch and ward at home both early & late: whẽ need is, they hazard their liues in defence of the rest, they beat away the drones, & fight with other Bees and waspes, and assault with their speeres whatsoeuer else offendeth them, they carry their dead forth to be buried, and performe al other offices. But the labour of the old ones is only in gathering, which they wil neuer giue over, while their wings can bear them: & then when they cease to worke, they wil cease also to eate: such enemies are they to idlenes

56 *And of the old.*

idlenes. And therefore generally they die in their delightful labour either in the field or cõming home: *atque animas sub fasce dedere.* Virg.

57 *Bees wont est soones to play*

Somtimes as wel in sommer as winter the Bees take pleasure to play abroade before the hiue, specially those that are in good plight, flying in, and out, and about, so thicke, and so earnestly, as if they were swarming or fightings when indeede it is onlie to solace themselues: and this chiefliе in warme weather, after they haue beene long kept in. *Exercitationem interdum solennem habent: spatiate q̃ in aperto, & in alium date, gyris volatu edito, ita iterum redeunt.* Nat. hist li. 11. c. 20.

58 *They are soone killed with cold.*

The Bee is by nature very tẽder, soone chilled and killed with cold, which the dorre the waspe yea and the little flie can endure, and most of al then whẽ by reason of long restraint their bellies are over ful. The first that faileth in them, when the cold beginneth to prevaile, is their wings, so that they cannot rise to their hiues to helpe themselues by the heat of their fellowes. How to recover them, yea when they are quite dead, see *C.* 7. *n.* 59.

59 *How to reviue them.*

The

The Bee therefore excelling in many qualities, it is fitly said in the proverbe.

As { *Profitable*, *Laborious*, *Loiall*, *Swift*, *Nimble*, *Quicke of sent*, *Bolde*, *Skilfull*, *Chaste*, *Neate*, *Browne*, *Chillie* } *as a Bee.*

Of the placing of your ſtalles, and of their ſeates.

CHAP. 2.

Of 5 things requiſit in a bee-garden, the firſt is that it be nigh at hãd.

For your bee-gardẽ firſt chooſe ſome plot nigh your home, that the Bees may be in ſight & hearing, becauſe of ſwarming, fighting, or other ſodaine happe, wherin they may need your preſente helpe. Your garden of herbes & flowers is fit for the purpoſe. *Hortis coronamentiſq; maxime alvearia & apes conveniunt, res præcipui quæſtus compẽdiq; cum ſavit.* Nat. hiſt. li. 21. c. 12.

2 *That it be ſafely fenced frõ cattaile and windes.*

2 See it be ſafe, and ſurely fenced, not onlie from al cattaile (which if they breake in maie quickelie ſpoile both the Bees & themſelues) and ſpecially from ſwine (which by rubbing againſt the hiues, and tearing the hacles in a wãtonnes are moſt apt to overthrow the ſtalles) but alſo from the violence of the windes, that when the Bees come laden and weary home, they maie ſettle quietlie.

3 *The north and eaſt fences ſhould be high.*

The north-fence of your garden ſhoulde be cloſe and high, that the cold winde of that coaſt, which blowing againſt the Bees cõming

home

home wearie would throwe downe & kill manie, maie be altogether kept from them. And therefore, if it maie be, ſet your Bees on the ſouth ſide of your houſe; which will not onlie defend them from that vnholſome winde, but alſo by reflection double the heate of the ſun ſhining on the wal, & ſo comfort them much, ſpeciallie in the winter and ſpring.

The eaſt fence alſo would be good & high to keepe from the Bees as well the ſun, as the winde. For the ſun riſing doth oftimes till thē forth, when the aire is colder then they can indure; and the Eaſt-wind being cold and ſharpe is verie vnkind for Bees, ſpeciallie in the ſpring.

The ſouth & weſt fences muſt be alſo good but not ſo high as to hide the ſun from the hiues.

But in no wiſe let the place be ſhadowed from the ſouth-ſun: for that doth not onlie dry the hiues & reliene the Bees in the winter and ſpring, but alſo cauſeth them to ſwarme in ſūmer, if it be not extreame hot and drie *v.*

Nor yet from the ſun ſetting: becauſe in calme and pleaſant weather the Bees wil be in field after the ſun is down, even as long as they can there ſee: and if when they returne, they finde it darke at home, manie of them; their ſight being but dim, *v.* fall ſhort or wide: which flying and running to and fro til they be wearie, at length yeeld to the cold dew.

v.c.5.n.19.

C.1.n.41.

Otherwiſe let the fences be as good againſt the ſouth and weſt winds alſo, as may bee: for although they be not ſo cold and bitter as the other

other; yet are they no lesse violent, and more frequent: so that they also do much harme, specially in the spring. And therefore if at that time of the yeare in rough & boisterous winds you find that the garden-fences doe not sufficiently garde and defend them; then is it good to set vp wixed or lined hurdles, or some other skreene betweene them and the weather. For though they can shift abroad in the strongest windes, as a ship that hath sea-roome; yet are they easily overthrowne at the hiue, as the ship is soone wrecked at the hauen.

5 *In rough winds the Bees need a skreene.*

3. That the place be sweete, not annoyed with any stinking sauour. I haue knowne a stall in the spring being sufficiently prouided of hony, & hauing bred yong, to forsake all because of poultry that roosted in a tree ouer them. *Odêre fœdos odores, proculq; fugiũt:* And yet the smel of vrin doth not offend them; nay they wilbe very busy where it is shed. It is thought they vse it for physike. *Remediũ contra alui concitationem est vrina hominum vel boum.*

6 3. *That it be sweet*

Nat. hist. li. 11. c. 18.

4 That it be nether very cold in winter nor very hot in sommer. *Locus æstate non fervidus, hyeme tepidus.* A bare flower is naught in both seasons: because in winter it is over cold and by that meanes quickly chilleth the Bees that light vpon it; and in sommer it causeth them to lie forth through excessiue heate. *v.* A grassie ground therefore is best at all times: but let it

7 *Neither very cold in winter nor very hot in sommer.*

Hist. l. 9. c. 40. *v. c. 5. n. 19.*

8 *A graſſie groūd is beſt, but kept not and drie.*

be kept notte in ſummer & dry in winter; for long graſſe and weedes about the hiue doe but harbour the bees enimies, *v.* and hinder both their paſſage in and out, and their riſing againe when they fall ſhort: and water, if it ſtand, not only maketh the place drie and fowle, but alſo cauſeth muſtines within, and increaſeth the colde without: both which are noiſome to the Bees.

v. c. 7. n. 4. & 18.

9 *5. Beſet with trees and buſhes.*

5 That it be conveniently be ſet with trees & buſhes fit to receiue the ſwarmes, as plumtrees, cheritrees, apletrees, filberds, hazels, thornes, roſes, &c. Although, if they be willing to ſtay, they will not refuſe a dead hedge, a lauēder border, or the like, or ſometime the bare ground. For want of trees, ſome haue ſtucke vp greene boughs, and the Bees haue lighted vpon them.

10 *Two ſorts of ſeates.*

The place being thus fitted, the ſeates are to be provided: which, whether they be ſtools or benches, muſt be ſet a little ſhelving, that the raine may neither run into the hiue, nor ſtay at the dore.

11 *The benches not ſo good as ſingle ſtoole.*

To ſet many ſtals vpon a bench (as many vſe to do) is not beſt: for that in ſommer it may cauſe the bees to fight, as having eaſie acceſſe on foot to each other, and ſtanding ſo neere that they ſhall ſometime miſtake the next hiue for their own: & in winter the bench wilbe alwaies wet, which looſeth the cloome,

rotteth

rotteth the bottome of the hiue, & offendeth the bees: and the mouse at all times hath free passage from one to an other, without feare.

12. *Swarmes may be set on benches.*

The single stooles therefore are best. And yet it is not amisse to set most of your swarms vpon benches, before the old stals: frō whence remoue them to the stooles, when the stals are taken: and then set vp the benches til an other yeere.

13 *Wooden stooles better then they of stone.*

The best stooles are of wood: those of stone are too hote in hot weather, & (which is worse) too cold in cold.

14 *The size of stooles.*

For their size they shoulde not bee aboue halfe an inch or an inch without the hiue: saue only before where there needeth the space of fiue or 6. inches, that the Bees may haue roome enough to light vpon, specially then, when the sight of a rainy clowd sendeth them thrōging home. Three inches of which fore-part next the hiue must remaine flat for the porch to stād vpon *v.* the rest is to be cut shelving that it may the better avoid the raine. And therfore if the hiue be 15. inches over, the stoole shoulde not be aboue 16. or 17. inches one way, and 21. or 22. at the most the other way.

v.c.3.n.25.

15 *Which way the stooles should be set*

These stooles would be set toward the south or rather southwest, that the hiue may somwhat breake the East-winde from the dore, *v.* and that the dore may be lightened by the sun setting when they returne late from field, *v.*

v.not.3.
v.not.4.

16 *How neere to the fence.*

And if the north fence be a wal, pale, or hedge, let them ſtande ſome two feet from the fence that you may go about the hiues to ſee & mēd what is amiſſe: but if it be a houſe-ſide, then ſet them 2. feet without the eveſdropping, leſt the raine rebounding from the gutter moiſten the hiues.

17 *How neere to each other.*

They ſhould alſo ſtand in ſtraight rankes or rewes from eaſt to weſt 4. feet, or at the leaſt 3. feet and a halfe one from another meaſuring from dore to dore, not only that you may haue roome enough to go rounde about every one, but alſo that the Bees when they come home in haſt, ſpecially when a ſwarme goeth backe againe, may al fly into their owne hiue. For if they ſtand neere togither, at ſuch a time many wil take the next hiue for their own, and then they fal togither by the eares, *v.* & the nymphs alſo, when they go firſt abroad, wil by that occaſion the ſooner miſtake: which if they doe, they die. Neverthelesse if the ſwarmes vpon the benches ſtand but 2. feet apart, it is enough: but alwaies lay a Reſt, *v.* or other ſticke of three inches thicke, as marches betweene them to keepe the peace.

V.c.5.n.55.

V.c.5.n.39.

The ranks ſhould bee placed ſixe or ſeaven feete, or fiue at the leaſt one before an other, that ſo not only the Bees, but the ſun alſo may come without let to every hiue.

18 *How neere to the grouid.*

Alſo they ſhould not ſtande aboue two feet from

from ground because of the winde; nor vnder one foot for the dampnes of the groūd in winter, which would make the hiues moist & musie; and for the heat of the ground in sommer, which in hote and dry wether would make the Bees lie out, and so hinder both their worke & swarminge. *v.* *V.c.5.n.19.*

If you haue but one ranke, the best highth is one foot and a halfe. If you haue many, it is cōvenient that the most northward rankes stand highest, & the most southward lowest, descending by degrees frō two feet to one: as if there be two rews of stooles let the first stand 2. feete from ground, the next 18. inches, and all the benches one foote. If there be three rankes beside the benches, let the second be twenty inches, and the third sixteene.

19 *How to bee footed.*

The stone-stooles must bee footed as they may, the fashion of each place where they are vsed wil direct you. But the plankes or woodē stooles are either to haue fowre feete made of the hart of oak, or of some other lasting wood; or to be fastned to one foote with two wooden pins: which foot let be made of sound timber 5 or 6 inches over; and of that length that it may be set betweene fifteene and eighteene inches in the ground. The fower feet are fittest for the higher stooles, and the single foote for the lower.

Of the hiues, and the dreſſing of them.

CHAP. 3.

1 *Two ſorts of hiues.*

IN ſome countries they vſe ſtrawne hiues boūd with briar: in ſome wicker hiues made of privet, withy, or hazell, dawbed vſually with cowcloome tempered with gravelly duſt or ſand or aſhes.

2 *Strawne hiues with their inconveniences & remedies.*

The ſtrawne hiues when they are olde and loded, vnleſſe they be very hard wrought, doe vſually ſinke on the one ſide, ſpecially if they take wet, and ſo breake the combes and let out the hony: and the nether part of them is apt to be rotted with the moiſture of the ſtoole: For which cauſe it is good to reare them an inch frō the ſtoole with three ſtrong ſpleetes, equally diſtant, and thruſt into the bottome toward the top as high as you can, alwaies keeping thē in the middle of the rowles: and ſo ſhal you alſo prevent that other inconvenience, & keepe the hiues vpright.

3 *Wicker hiues with their inconveniences & remedies.*

The wicker hiues wil ſtil be at fault, and lie open, if they be not often repaired, vnto waſps, robbers, and miſe. Any of theſe, if ſhee find but a lit-

a little chap, will dig hir way in: and the mouse (vnlesse the twigs bee close wrought) though shee finde none.

Both these hiues, if they be not wel covered, are subiect to wet, which maketh them mustie, and, if it be much, rotteth the combes and destroieth the Bees. But the heate in summer, the colde in winter, and the raine at all times doth soonest pearce the wicker hiues: for which cause it is good to double-dawbe them.

4 *Strawnhiues best.*

All things considered the strawne hiues are better, specially for smal swarmes.

5. *The size of hiues.*

The hiues should conteine betweene a bushel and a halfe, as the time of the yeare, and quantitie of the swarme doth require: how to fit the hiues to the swarmes see *c,5.n.37.*

Haue alwaies hiues enough of al sizes in store, least they be to seeke when you should vse them.

6 *When hiues are to be made.*

The best time for making of them, whether they be strawn or wicker, is in the three dead months of winter *Saggit. Capricorn.* & *Aquar. v.* for then the straw, briars, & twigges are best in season. *v.n.51.*

7 *How hiues are to be dressed before they receiue the swarmes.*

Your hiue being ready is thus to be dressed. First cut awaie all those staring strawes, twigs, or other offensiue ragges that are fast in the hiue, making the inside as smooth as may be: but first (specially if it be a strawn hiue) rub it a good round about with a linnen cloath, that so

8 *The pruning of hiues.*

you may the sooner remoue those that ar loose; For these obstacles, if they cause not the Bees to forsake the hiue, yet will they much trouble and hinder them: you may heare them, (specially in the night) scraping and gnawing three or fowr daies after they be hiued, yea sometime a week together, as though there were mise in the hiue. And in strawn hiues, if you help them not, a long time after.

9 *The spraying or spleeting of the.*

2. The take a straight hazel or willow-slick, and quarter it, if it be big enough, otherwise slit it: and then shaue and smooth the cleaftes; which being of a conueniēt strength & length put three of them in a hiue, setting the vpper endes together in the top of the hiue, and the nether ends equally distant one from an other within a handfull of the bottome. But if the hiue be more then fourteene inches ouer within, it may wel receiue foure spleets. And this is the easiest & quickest way of spleeting a hiue: it is also strong enough for bearing the combs, and best for taking them forth without breaking. Besides which there are divers sortes of spleeting needlesse to be rehearsed: for every country hath his fashion.

10 *The seasoning of them.*

3 Lastly in swarming time season the hiues that you meane to vse, rubbing them with sweete herbes such as the Bees loue, as time, sauourie, maioram, baulme, fenell, hysop, malowes, charlock, &c. And when the swarme is

setled

settled, take the hiue that you thinke fit for it in bignesse, v. and with a branch of hazel, oake, willow, or any of the foresaid herbes, but chiefly with a sprig of that tree whereon the swarme lighted, wipe the hiue cleane, and then dipping it into meth, or faire water mixed with a little hony, or with milke and salt, or for a need with salt only besprinkle the same. V.c.5.n. 37.

11 *The seasoning of an old hiue.*

But if the hiue haue beene vsed before, after you haue pared away the wax as cleane as may be, if you thinke the former dressing will not make it sweete enough; then let a hogge eate 2 or 3 handfuls of mault, or pease, or other corne in the hiue: meane while doe you so turne the hiue, that the fome or froth, which the hogge maketh in eating, may goe all about the hiue. And then wipe the hiue lightly with a linnen cloath, and so will the Bees like this hiue better thē a new. But if you vse it not the same day, then besprinkle it also, when you doe vse it, as is shewed before. And so serue a new hiue when the Bees are so froward, that they wil not otherwise abide.

12 *How hiues are to be ordered when the Bees are in them.*

And thus are the hiues to be prepared and dressed, before they receiue the Bees. Now will I shew you how they are afterward to be ordered throughout the yeare.

13 *The hiues alwaies well hacled.*

1. First let thē be alwaies wel covered, that they may be safe in summer from heat, lest, the wax melting, the combes fal down; v. in winter from cold V.c.7.n.49.

v.c.7.n. 51. cold, least it kil the Bees; *v.* and at al times from raine, least it corrupt first the hiue, afterward v.c.7.n. 54. the combes, and at last the Bees also. *v.*

Nat. hist. li. 21. c. 14.

14 *How to make a hacle.*

The best cover for hiues is a thicke hacle: *Alvearia stramẽto operiri vtilissimum.* Which is thus to bee made. Take fowre or fiue handfuls of wheat or rie leased out of the sheafe: which being boũd vpseverally beat out the corne; & thẽ casting away their bands draw out the eares of each handfull longer on the one side then on the other: and putting the long sides togither (so to make the forme of a taper or pyramis for shooting the raine) binde them al in one vnder the eares as fast as you can, with a thong, cord, or other strong string. And then, to make a bãd or cap for this pyramis or head of your hacle, lease out of the sheafe almost a handfull of the strongest straw, and lay it in soake about a quarter of an howre. Being thus prepared take out of that wet bundel some 40. or 50. reedes or strawes, and laying halfe of them one way and halfe the other, that the band may be of equall bignes, take them vp togither; and then mingling one end of the reeds with the midle reeds of the head, and twisting them fast togither in your hand, let the band harle or double in the very top of the head: and so begin to binde the head round, working downeward, and stil twisting the band as you go. When those reedes are wel-nigh wrought vp, take out of the wet bundle

15 *The working of the cap*

bundle so many more prepared as before: and when you haue mingled one end thereof with the end of the other, holding them in your hād twist them fast togither: and so continue your worke, alwaies binding as hard as you can, and bearing vp every role close to his fellow. When you are come downe to the string, loose it, and binde the last or lowest role in the place therof, making fast the end, by forcing it vp betweene the head and the cap with a forked sticke and a maller.

16 *The bignesse of the hacle.*

The hacle thus made of fowre or fiue handfuls wil conteine in compasse close vnder the cap betweene 14. and 18. inches: fourteene wil serue for the smaller hiues, & eighteene for the greatest, although they be fiue feet about.

17 *The length of it.*

For the length of the hacles, each one is to be fitted to his hiue, so that the skirts thereof may reach to the stoole, or within halfe an inch of it round about, saue only the space of fowre or fiue inches on each side the dore, where it must be pared somewhat shorter, that the Bees passage be not hindered. And then with a smal pliant girdle of bethwin, or the like gird the hacle close to the hiue in the middle or biggest part of it, least the winde disorder it. If there be any crook or bout in the girdle, set that before, that the hacle, bearing in that place farther out, may shoot the water frō the dore: otherwise, for that purpose, set the girdle somvvhat high-

18 *The girdle.*

er

19 *The hiues alwaies close cloomed.*

er before then behinde.

Next keepe the hiues alwaies close for defence of the bees against their enimies. The best cloome for that purpose is made of neates dunge: *circumlini alveos simo bubulo vtilissimum*; but let it be tempered and hardened with clay or other morter, or for a neede with ashes, against the wet; and with sand or gravel against the gnawing of Mise. With this cloome close vp the skirts and brackes of your hiues, that there be no way into thē but only by the dores.

Nat hist. li. 21. cap. 14.

20 *Then seldōe to be moued.*

And being thus safely shut, moue them not without vrgent occasion. *v.* for often lifting vp the hiue and letting in the open aire doth discourage the stall. But whēsoever you are occasioned so to do (the Bees being stirring) lest any be crushed betweene the skirts & the stoole in setting it downe againe, teele vp one side with a little tile-sharde, which, when the Bees are quiet, take away, & see the hiue close cloomed againe.

V. n. 33. 44. & c. 8. & 9.

21 *How a hiue lifted vp is to bee set down again.*

22 *The bignes of the hiue dore.*

The hiue-dore must be made as little as may be, the Bees having easie passage to & fro, not letting one an other: and therfore great flights must haue the greater dores, and little flightes the lesse. The greater dores may contein about 4. square inches, as being 4. inches wide, & one inch, or at the least three quarters of an inch high: the lesse need be but 3. inches wide.

Vnto the hiue-dore there belong a barre, a porch,

porch, and a porch-dore: al which for the safety of the Bees are to be vsed in their times, as anon in this chapter shal be shewed.

23 *The making of the barre.*

The barre is to be made of a piece of lath, trencher, or other thin wood an inch broad, & fowre inches long: in the nether edge whereof you must cut a holownes 3 inches lōg & almost halfe an inch high, so leaving halfe an inch at each ende vncut. And this will serue for most stalls: but if you haue any so good, that they cā not, easilie or without let, passe through this single barre; then for them cut an other holownesse aboue, of the former length, and but one quarter of an inch high, leauing the space betweene the two passages a quarter of an inche. The forme of which barres both single & double you may see in these figures.

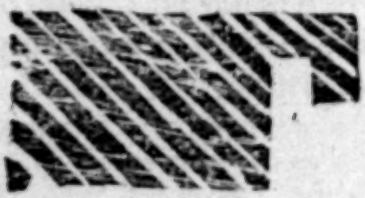
24 *The vse of it.*

The vse of the barre is to streightē the passage where there needeth not so much roome, & to keep out the enimie whē the porch is frō it. *v. V.n.33.*

The

25 *The making of the porch*

The concavitie or holownesse of the porch must be an inch in length or widenes from east to west, almost halfe an inch in heighth, and an inch and a halfe and better in thicknes from the hiue outward. And it is to be made of a piece of wood two inches long, one inch high, & two inches thicke: of the which two inches, an inch and a halfe and a litle more must serue for the thicknesse of the concavitie: and the nether part of the rest being taken away, there mustbe a chanel cut in the vpper part, in which the dore is to slide to and fro. The fashion of which porch you may best vnderstand by the figure of one ende, thus represented.



Out of one square sticke, an inch one way and two inches the other & twenty in length, you may cut halfe a skore. For great swarmes and full stalls, which cānot easily passe through these porches, make them an inch and a halfe wide, and then the wood must bee two inches and a halfe long.

26 *The vse of it.*

The porch hauing this long and streight passage, the thiefe will not be hasty to enter, & if she doe, ten to one shee is met with before she can get through, and sent back againe with

a flea in her eare. 2. The porch seruetb also to breake the force of the cold winde and frost in winter, which is very hurtfull vnto the Bees. 3. and withall keepeth out the mise', which in winter wont to make most spoile. *v.* *vt c 7. n. 4.*

27 *The making of the porch-dore.*

The porch-dore is to be made of a peice of thin wood, as a lath, trencher, chip, or the like; of the length of the porch, of that thicknesse that it may slide to and fro in the chanell, and of that breadth that it may reach frō the stoole to the top of the chanell. In the middle cut a breathing place, so long as the widenesse of the porch, and so narrow that a Bee cannot passe. with this dore you may shut or halfe-shut the porch as you shall see cause.

28 *The vse of it*

29 *The greese.*

Vnto these may be added a greese or ascent, which may be a planck or bord of the breadth of the stoole at least, and of that length that it may stand leaning from the groūd to the fore-part of the stoole; that thereon the Bees may settle when they come weary or thronging home, and so ascend to the dore, and that there they may sun & refresh themselues being chilly & wearie. It may also be made of two bords, the broader the better, or for a neede, of many lathes fastned together with 3 ledges, which, if they be outward, may saue the Bees from falling when they misse their hold.

30 *How to order the Beehiues in euery month, & first in GEMINI.*

From *Gemini* to *Leo* let the dores *v.* stand wide open, that there may bee roome for the swarmes

v.n. 22.

swarmes to passe at pleasure, all which time there is no feare of enimies.

31 CANCER.

Gemini being past, if the weather be vsually not hot, when there commeth a calme warme day, take of the hackles from those hiues that are likely to swarme. But if the weather be extreame hot and dry, then is it good to coole the hiues, and to put in the Bees which will thē lie forth *v.*

32 *How to make the Bees swarme.*

v.c.5 n. 20.

If you then desire that any of your two-yeer-stalls, which haue not yet swarmed, should swarme, see whether their combs reach within an inch of the stoolesif they doe not, make a false bottome to reach to that scantlet. *v.n.41.*

33 *How to keepe them from swarming.*

v.c.5.n 11.

When you would haue no more swarmes, as namely after the first blowing of blackberies, *v.* which is commonly within a sevennight after Midsommer, set vp those hiues that are full with three tile-shards, or other thinges of like thicknes, & cloome vp the space betweene the hiue & the stoolet whereby you shall not only stay the Bees from swarming, but also keepe them from killing their yong.

34 *How to keepe full stails from killing their yong.*

35 LEO.

For in *Leo* those that are already very full of Bees, whether they be good swarmes or stockes, doe oftimes kill their later brood, some fledge, some before they can fly, lest they should be thronged for want of roome, knowing that then it is to late for them to goe forth in swarmes.

At

At *Leo*, when swarming is past, to the dores of the weaker stalles (whether they be small swarmes, or stockes that haue twise swarmed) fasten the barre *v.* with good cloome. 36 *Fasten the barre to the dore.* *v.n.23.*

At *Virgo* or a little before, which is the most dangerous time for Bees, because of waspes that then, if not sooner, learne the way into the hiues, but chiefly of robbing Bees, which then begin to spoile, *v.* first bee sure that the hiues be close in all places: then fasten the barre either single or double, as you shall see cause, to such hiues as are full of Bees: and to the weaker sort, which were barred in *Leo*, set vp the porch *v.* and cloome it fast. 37. VIRGO. 38 *To keepe the hiues from robbing.* *v.c 7.n.26.* 39 *Set vp the porch to the weaker.* *v.25*

Moreouer because the waspes and robbing Bees wilbe stealing betimes, before the true Bees be stirring; it is good in the evening whē the Bees are all in, to shut the porch of those that are weake, that a Bee cannot passe: & not to open the same the next day till the weather be warme, and the Bees offer to come abroad, though it be not before 9, or 10. or 11. a clock: and then you may ether open it or halfe-open it, according to the flight of your Bees. *v.* 40 *And keepe them shut till they offer to goe abroad.* *v.n 25*

And for those swarmes that haue not wrought downe within a handfull of the stoole, to the end they may ly warme the winter following, and that they may be ready at the dore to keepe out robbers; at *Virgo* (for after this time they gather no more wax to enlarge their 41 *How hiues not full ar to be vsed against colde & robbers.*

v.c.6.n.13 combs.v.) take so much hay or straw, as wil fill the empty part of the hiue within an inch or two of the combes: and wrapping the same in some old linnen cloth, so that the strawes may not offend the Bees, set it vpon the stoole: and then hauing laid thereon a thinne round bord as broad as may easily go into the hiue, set the hiue ouer it downe to the stoole: and make a little new dore through the hiue betweene the round bord and the combes: or else leaue away from the new bottome downe to the old dore, through halfe a greate cane or some other stick cut holow for the nonce, to keepe the stuffing from the side of the hiue. Without such help extreame cold wil kill many, & weaken all: whereby they are made vnlustie to worke, as the Philosopher well noted. *Si alveus iusto amplior sit, desidiosiores reddunntur.*

Hil.l.9.c.40

42 *The reared stalles now to be set down againe* v.n.21.

The stalls which you reared in the end of *Cancer* for feare of swarming or killing their yong are to be set downe againe, v. vnlesse they be swarmes or yearelings that haue wrought downe to the stoole: for after the second sommer wel they may build new combs, but they will never enlarge the old.

43 *In Virgo try whether the Bees wil lime*

Also in this month about the middle those hiues which you deeme to be weake because the Bees are gon vp from the dore, knock with your hand, one after another: they that at the first or second stroke doe make a great noise

both

both aboue and beneath continuing the same for a space, haue store of Bees, and are therefore in lesse danger: but those that make a litle short noise, though they be heauy and haue hony enough (such as are commonly those of three yeere old, and vpward that haue cast twice or oftner that yeare, and did not at *Virgo* beate away their drones) yet haue they but few Bees, and are therefore ill able to resist the violent multitude of robbers; which, whe they perceiue their weaknesse, wil neuer leaue them as long as there is a drop of hony in the hiue.

If you see them once fighting, *v.* either presently take them, or make their entrance so narrow, that but one Bee may passe at once: & before *Libra* be sure to take them. For though they escape this robbing-time through your care and diligence, yet at the spring they will surely yeeld, or dy of themselues, or fly away. But those stalls that are very full will make litle or no noise when you knock them, vntil toward the end of this month, when they be gon vp from the dore. *v.c.7.n.32.*

Some Bees begin to faile after *Virgo* and therefore it is good to make triall of them by poising and knocking the hiues, and by looking into them (if need bee) in *Libra* also, and likewise in *Pisces* and *Aries*. But whensoever for this purpose, or vpon any other occasion you lift a hiue from his stoole, (which is spare- 44 LIBRA. 45 *Try them again in Libra. c.26.*

46 *Now set vp the porches to the best & keepe them all shut till the Bees offer to go abroad.*

ingly to be done) take heede how you let it downe againe. *v.n.21.*

At *Libra* set vp the porches of the best: and then diligently in the evninges shut the porch dores of al. For in the cold mornings, while the true Bees keepe in, because it is no fit time for them to gather in; the theeues both waspes & Bees will be abroad seeking where they may breake in and steale. *v.c.7.n.26.*

47 *Now take the combes.*

In this month is the time to kill and driue Bees. *v.c.10.par.1.n.3. & 16.*

48 SCORPIO

49 *Continue the shutting & opening of the porch this month also.*

This shutting & opening of the porch-dores must be continued throughout *Scorpio* also; vnlesse abundance of cold raine doe sooner chasten the waspes. But for the poore stalls, it is best to keepe them half-shut all the day long, as in *Virgo. v.n.40.*

50 *How to dresse the hiues for winter.* *V.n.21.*

At *Scorpio* dresse your hiues for winter. First lift vp the stalles (except those that be very ful of Bees, which will not need your help) & sweepe the stooles cleane: then setting them downe againe warily, *v.* that you hurt no Bees, cloome them close, and mend all brackes and faults about thē & where the hacles be worne set new in their steades that may keepe the hiues dry and warme.

51 SAGITT: CAPRIC: AQVAR. *are 3. dead month.*

Sagittarius, Capricornus, and *Aquarius* are the three dead months of the yeere: in which for the most part Bees lie stil spending their time in eating and sleeping. But if at any time there

52 *How the bees spend their time in them*

hap-

happen a faire howre, they presently perceiue it: and it doth them much good to flie abroade that they may take the fresh aire, drinke, exercise their wings, and lighten their little bellies, which are oft times so stuffed, whē the wether suffereth them not to flie abroad, that they can hold no more: so loath are they to defile their neasts. Nevertheless, the first fowle and colde wether in *Capicorne* shut the porch dore, to saue them from the cold as well within the hiue as without. For as the frost and snow and colde windes, yea and the ordinary disposition of the aire doth chil many of thē, whom the flattering sunshine enticeth abroad; so the great frosts striking through the dore doe freeze the nethermost in the hiue to death: so that by little & little many stals in some winters haue been therby wholly destroied, the which by keeping thē warme might haue beene preserved. But when you shut them in, be sure the hiues bee alwaies close and sure: for the Bees will striue by all meanes to come forth, though they never finde the way in againe. Yet whēsoever in these three months there happen any pleasant day (namely when the sunne shineth, the winde is stil, or bloweth mildly out of the south or west, & the earth is without frost and snow) it is very behoueful to giue them leaue to play, *v*, and to refresh themselues: the oftner the better: once in a fortnight or three weekes is to be wished but

53 *The first sharp weather in Capr. shut the Bees in.*

54 *And in pleasant weather let thē loose, if it may bee once a fortnight or 3 weekes.*

v c. 1. n. 57.

if you or the wether shut thē in much longer, they wilbee so faint and feeble through their long restraint, that without very pleasant weather at their comming abroad, a number of thē wil bee chilled while they rest themselues but a little in the open aire. And therefore as often as any pleasant day causeth you to set the hiues opē, let them alwaies so stand vntil the frost or snow keepe the Bees in againe. And after Saint Pauls day or mid-*aquarius* shut them not, vnles the snow lie, or the frost hold two or three daies togither. And if the faire wether, that let them out, continue, so that they vse daily to play abroad; you may nowe also clense the stooles, which otherwise is not to bee done before *Pisces*.

55 PISCES.

In *Pisces*, if not sooner, when the wether is pleasant, set them at liberty to go whē they wil: for warme daies or howres growing then more frequent, they will not go abroad at every sunshine, vnlesse they finde the aire somwhat pleasant withall.

56 *The 1. faire day in Pisces set your Bees at liberte.*

57 *Now cleanse the stools.*

At this time, in a morning before the Bees come much abroad, lift vp your hiues, & quickly sweeping the dead Bees and other noysomnes away, & scraping cleane the stooles set thē downe againe, *v.* And cloome them close as before. For albeit the Bees in time would rid them cleane themselues; yet shal it be good for them to haue it done at once, that they be nether hin

V.M. 21.

der

dered nor annoied therewith: and now & then the carying out of a dead Bee at this time of the yeere doth cost a quicke Bee hir life: for being drawn with the waight of the corps to the cold ground, while shee standeth panting a litle she is chilled, and so not able to rise any more.

This cleansing of the stooles, after a calme *Aquarius*, when the Bees haue beene much abroad, is not so necessarie, and specially for the better stalles.

58 *And driue light Stalls.* *v.c.10 n.20.*

Those stals that by their lightnesse you perceiue to lacke hony, you may now saue by driving them into others that haue store. *v.*

59 ARIES: *The second chiefe robbing time.*

Aries is almost as daungerous a month for robbing, as *Virgo*: and therefore you must haue a care in the euenings to shut the porch dores, and in the mornings not, before it be warme, to open them againe. The poore stals this month would bee halfe-shut al the day, as in *Virgo* and *Libra*.

60 *In* TAVRS *remoue the porches.*

At *Taurus*, & sooner, if sooner you see cause, * That is when either they keepe watch at the dore in the evenings, or be so encreased that they cannot easily passe to and fro in their worke: for if the passage seeme too straight only in their playing fit, *v.c.1.n.57.* that maketh no matter.

from the better stals let the porches be taken away: and for the weaker sorte, let them al this month be shut in the evenings: & in the mornings, assoue as it is warme, be set wide open.

61 *In* GEMINI *the barres.*

At *Gemini* take away the barres from the bet-

ter, and the porches from the weaker: & when this month is halfe past, make thē al alike: leaving the dores as they were in *Germini* before, v. some three, some fowre inches wide, and one inch high, or within very little.

V.n.30.

Of

Of the breeding of Bees, and of the Drone.

CHAP. 4.

THE Drone, which is a grosse hiue-bee without sting, hath been alwaies reputed for a sluggard, & that worthily: for howsoeuer he braue it with his round velvet cappe, his side gown, his great paũch, and his lowd voice; yet is he but an idle person living by the sweat of others brows. For he worketh not at al, ether at home or abroad, and yet spendeth as much as two labourers: you shal never finde his maw without a good drop of the purest *nectar*. In the heat of the day he flieth abroad, aloft, and about, and that with no small noise, as though he would doe some great act: but it is only for his pleasure, and to get him a stomach, and then returneth hee presently to his cheere. *Fuci cum exeunt efferunt sese fusim in sublimi gyroq; volitant: quod vbi satis iam fecerint redeunt domum & epulis perfruuntur.* But for all this there is such necessary vse of him, that hee may not be spared, as withour whom the Bee cãnot be. For albeit he be not seen to ingender with

The drone no labourer.

Hist. li. 9. c. 40.

v.c.1.n.50. with the hony-bee, v. ether abroad, as other *insecta* do, or within the hiue, where yet you may

v.c.6.n.4. & 5 by means behold what they do; v. yet without doubte is hee the male-bee, by whose natural heat and masculine vertue the hony-bee, which

v.n.11. & 16 breedeth both hony-bees & drones, v. secretly conceiveth.

3 *Diuers reasons prouing the drone to be the male. The first reason is, that they are suffered in breeding time only*

The reasons that mooue me thus to thinke are these. First because although they be great wasters of the Bees store, yet vntil they begin to leaue breeding, and haue conceived for the next yeare, (which some do about *Leo*, most before *Virgo*) they suffer them: afterward they begin to beat them away. Which if some few doe not, before *Scorpio* they die naturally: and from thenceforth al the winter, vntil the Bees breed new againe, v. there is not a drone to be had *In rerum natura*. When they are quite gone, then do the Bees lay no more seeds that yeere, but only hatch and breed vp those that are already in the celles.

4 *No drone in winter.*

v.n.16. & 17.

Nat hist l. 11 c. 11.

v.c.5.n.4.

5. *The second reason is that the drones being taken away in breeding time the Bees breed no more.*

Secondly, as the rather and the more the drones are, the more & greater are the swarms, (*Certe quo maior fuerit fucorum multitudo, eo maior fiet examinum proventus* v.) so where the drones are few & late, there is smal increase. & therefore if you kill the drones of a hiue before the Bees haue done swarming, and breeding (as some fondly haue don before Midsommer, to saue their hony from these greedy lurchers

chers) neither will the swarmes come forth that were formerly bred, nor the flocke thence forth breed any more. After which time bringing in *Ambrosia v.* as much as before, and having no yong ones to spend part of it, nor taking any pleasure to worke it with the liquid *nectar*, as otherwise they vse to doe, *v.* they lay it vp carelessly in their cells, where it corrupteth & turneth to stopping *v.* which will cause them so much to mislike their hiue, that the next *Virgo* they will easily yeeld it to the robbers *v.* And if by your industry they be then preserued, in *Pisces* when breeding time is, finding themselues barren, and therefore loathing eve themselues and all, they yeeld their goods to them that will take it: & after a while, when the strange Bees and they smel all alike by being together in the same hiue, & sucking the same hony, away they goe with them to their drones. But every faire day they will returne to fetch that they left behind them: you may see them flying so thicke to and fro that hiue, as if it were full of Bees: but when night comes, they are all gone.

v.c.6.n.17.

v.c.6.n.17.

v.c.6.n.18. & 19.

V.c.7.n.23.

6

Thirdly because *omne simile generat sibi simile* Every liuing thing doth breed male, or female of his kind, and experience doth teach vs that the Bees doe breed as well drones as honi-bees *v.* seeing the honi-bees are femals, it followeth necessarily that the drones are the males of the same

The third reason is that they are bred by the Bees.

v.n.16.

Hæc apis. ἡ μέλισσα

דבורה, ar hic fucus ὁ κηφήν.

same kind, And therefore not only in the Greeke and Latine, but also in the first language, wherein names were giuen to things according to their natures, the honi-bee hath hir fe nimine appellation, as the drone his masculine.

7 *The fourth reso is that the wasp & dorre: haue drones which are their males.*

Fourthly wee see the like in the likest *insecta* the waspe and the dorre: for the manifesting whereof I wil briefly shew you the breeding of them both.

8 *The breeding of wasps by drones*

The wasps nest is begun by one great wasp, which you may therfore cal the mother-wasp: the which in *Cancer* (or in hote and dry springs somewhat rather) within some hoale, vsualle made in the ground by a Moule, Mouse, or other meanes, worketh a combe, in forme of a round tent hanging by the top to the over part of the hoale. This combe containeth about six celles of the bignes & fashion of the Bees cells, wherein shee breedeth so many young ones: which, when they are fledge, do breed as well as their dam: and so enlarge the combe to some eight inches over. Then making more roome beneath by moining & carrying out the earth, they hang an other combe vnder the first, by little pins, and so an other, and an other, increasing stil in the same place til sommer bee done. For they goe not forth in swarmes as Bees doe.

Hist 9.c.42 *Missio vt apum nulla vel crabronum vel vespa-rum fieri solet: sed qui subinde oriuntur nouelli ibidem manent*

uent, & alveum terrâ egestâ faciunt ampliorem. In their last brood, which is in *Scorpio*, besides the smal or ordinary waspes, they haue al o two other sorts, drones or male-waspes (which are somewhat bigger then the smal wasps, & without stings as the drone Bees) & mother wasps, which are like the smal ones in al respectes saue that they are twise so bigge. These when they are fledge having cõceived, as the Bees, by the drones, leaving both drones and smal waspes to the mercy of the winter (which with the next cold-wet wether chilleth and killeth thẽ as they flie abroad) do forthwith betake themselues to some warme place, as the thatch of an house, a mortice in a post, an auger-hoale, or the like: where they abide til the next spring without any meate, as it were in a dead sleepe: out of the which nevertheleſſe a little warmth of the fire, or of your hande will awake them at anie time. At the blowing of palme, if the wether be warme, they fly abroad for food: and at *Cancer*, as I haue said, they begin to nestle and breede. He that killeth one of thẽ killeth a whole nest of waspes.

And that the drone-waspes are the males, some were of opinion in the daies of *Aristotle*: for thus he writeth. *Si vespam ex pedibus ceperis bombilareq, siveris, advolant quæ aculeo carẽt: quod non faciunt quæ aculeatæ sunt. Itaq, argumento quidam hoc vtuntur quod altera mares sunt, altera fœmina* Hist. li. 9. 42.

mine: which argumẽt seemeth not vnprobable, seeing the fowlers counterfeiting the cal of the hen-quailes cateh only the cockes.

9 *The breeding of Dorrs by drones.*

The dorre likewise beginneth hir neast single, being more like the Bee then the wasp is in that she maketh hony, and more vnlike in the fashion of hir combs: for she hath only a few round cells of the bignesse of grapes lying flat on the ground one vpon another without any order: the which are made after this maner. First ether vpon the ground in the grasse, or in some shalow hoale within the ground, she prepareth a little stuffe which is soft like wax, but browne and more brittle, of the bignesse of hir head; & therein she layeth about six or seauen seedes together compassing them rofid with the same stuffe: which increaseth by little and little as the seedes doe: and when they begin to liue, it groweth into so many severall cells, as there are grubs, each one hauing one to himselfe. When they be come to their bignes, the celles, which before vvere browne and brittle, do now wax vvhite and tough that you can scarce teare thé. And when the dorres are ripe they gnaw their vvay out at the toppe. Vpon these they make more in like manner, and the voide open celles they fil with hony, wherewith they feede both themselues and their yong vvhen the vvether suffereth them not to flie abroad. All this neast is covered with a litle mosse like a birds-neast.

Vntil

Vntill *Virgo* they breede females only as the waspes doe: and then last of all for propagation of their kinde they breed their drones, being likewise, as the drones of Bees & waspes, without stings. And these, to put the matter out of doubt, within a while after do openly engēder with their females, as the chaffers doe. After vvhich time the females breed no more till the next sommer, though you may see them gathering, and flying about somewhat longer then the waspes. In *Sagitt:* they betake themselues to their winter-rest, where they lie single as the mother waspe in a sleepe or swivet. But the drone-dorres, as the drone-wasps, are destroied by the wether: not one afterwarde to be seene till *Virgo*, when the females breed new againe. But one thing in the dorres & waspes is more strange then in the Bees. For whereas the Bees assone as they haue bred their first broode of females, doe presently breede drones, *v.* both which, vvhen they are ripe multiply togither; the young dorres and waspes in the beginning of sommer do not immediatly take the drones (for thē there are none) but receiue frō their dās togither with their nature & being that masculine seed, wherby whē they are ripe they breed al the sommer following, vntil in the end they likewise conceiue by their late-bred drones for the next yeare, both for themselues and the yong that shal come of them. *v.n.16.*

By

10 *The fift reason is the apparent signes of their sex.*

By this time thou wilt say with me, that the drone is the male-bee: Whereof if some curious chirurgion would make an anotomy, he should easily discerne *duos amplos & candidos testes*, two sufficient witnesses of his masculine sex.

The light of this truth began to appeare many yeares agoe, even in Aristotles time. *Aliqui* (saith he) *mares esse fucos, faminas vero apes esse contendunt.* Which opinion he reciteth in another place. *Sunt qui fucos mares esse, apes faminas arbitrentur.* Where though he doe not approue it, yet hath he no other reason against it but this, *Arma ad pugnam viresq; exercendas nulli famine a natura tribuuntur.* Nature hath armed the Bees to chastice the drones, *v.* and therefore the drones cannot be their males.

Hist. l. 5. c. 21

Generat. l. 3. c. 10.

v. n 20.

The weaknesse of which reason I maruaile he did not see, seeing in all the kind of hawkes the female doth command the male, as being both stronger and better armed. VVherevnto may be added the example of the *Amazons* raigning in his time: who by force of arms subdued many kingdomes of men, and held them in subiection: like vnto which, it is marvaile but there were then some masterful viragoes in Greece, as wel as there be now in other countries. But of this point in the end of the same Chap: hee yeeldeth himselfe to haue no certaine knowledge, *Non tamen satis adhuc explorata*

explorata quæ eveniant habemus.

To returne therefore to our purpose, the hony-bees hauing, as those other *insecta*, conceiued by the drones; the best about *Pisces* when they first gather vpon flowers, others in *Aries*, and the weaker later, begin to breed their femals thus.

11 *When the Bees begin to breed*

First close vnder the hony (which is at that time altogether in the vpper parts of the cõbs) in the middle of the bottomes of the void cels, as the waspes doe on the one side, they begin to lay their seedes, about the bignes of those which the butterfly leaues vpon the cabage leaues: but of different colour, the Bees being white like wasp seeds, and the butterflies yelow. And so they descend by degrees toward the nether part of the combes filling one cell after an other. Although whẽ the chiefe breeding is past, they doe not precisely obserue this order, but lay vp their hony among the yong Bees where they find the cells void. The Bee-seed at the first sticketh vpon one ende vntil it be a liue worme or grub: as soone as it liueth it is loose, and lieth in the bottome of the cell round like a ring, one end touching the other, till so the bottome can no longer conteine it: after that, it lieth along in the cel til it be growen to the full bignesse of a Bee: and then doth the worme die and becommeth void of al motion and sense, and so is shut vp in the cell, the

12 *The manner of their breeding*

13 *The Bee seed is first turned into a worme.*

Bees couering the top close with wax.

14 *The worme being dead groweth to the shape of a Bee and then lineth againe.*

The worme thus lying dead doth by little and little grow to the shape of a Bee, but of colour white as before: and hauing obtained the full proportion, then doth it first begin to moue againe, and to liue hir second life: and thence forth by little & little turneth browne. Before she is perfectly browne, she flieth abroad practising to worke: and all this within the space of a month.

Hist. an. l. 5. c. 22. *Fœtu posito incubant, exclusu inde vermiculus, dum parvus est, iacet in fauo obliquus: postea sua ipse facultate se erigit, cibumq; capit. Fœtus apum & fucorum candidus est: ex quo vermiculi fiunt, qui in apes fucosq; transeant.*

15 *The breeding of the lady-bees.*

But the Lady-bees are bred in the severall palaces of the Queene, *v.* after a peculiar and more excellent manner. For the goldē matter whereof they are made is not turned into a worme at all, but immediatly receiueth the shape of a Bee. *Primordium regum colore cernitur fulvo, corpulentia mellis crassioris, magnitudine illico proxima suæ futuræ soboli: nec primum ex eo vermiculus gignitur, sed statim apis.* Item. *Higinius negat ex vermiculo, vt cæteras apes, fieri ducem; sed in circuitu fauorum paulo maiora, quam sint plebeij seminis, inveniri foramina repleta quasi sordæ rubri coloris, ex qua protinus alatus rex figuratur.*

v.c.6.n.9.10

Hist. l. 5. c. 22

Colum. l. 9. c. 11.

16 *When the drones are bred.*

When the old Bees haue ended their spring-broods of females, then last of all after the same manner

manner in wider cells made for the nonce *v.* *v c.6.n 8.*
they breed the male-bees or drones: as was long since obserued, *Sunt fuci sive aculeo velut imperfectæ apes, nouissimeq; a fessis & iam emeritis inchoatæ, serotinus fætus.* And therefore some stalls doe not drony before *Cancer*, not many before *Gemini*, nor any before *Taurus*; although you may see the [d] Nymphs of good stals abroad in *Aries*, of others in *Taurus*, and of all in *Gemini*. By chance some few Cephens may be bred betime with the femals: but they, as comming out of season, are not suffered to liue. Pl.lib.c.11.

7 *When they come abroad.*

[d] The yong Bees are called schadons: *schadones sobolē dico.* Hist l.5 c.22. The brood of femals, when they haue the shape of Bees, are first called Nymphs, and the yong drones Cephens: *Cæsera turba cum formam capere cœpit Nymphæ vocantur vt fuci cephenes.* Pl li.11.c.11.

18 *Two vses of the drones.*

These Cephens or drones, when they are fledge, doe not only serue for generatiō as hath beene shewed, but also doe helpe the femals much, by reason of their great heate, in hatching their broods. *In fætu adiuvant apes, multum ad calorem conferente turba.* And for these causes they are alwaies in breeding time mingled with them throughout the hiue. Although afterward (when they haue beene much beaten, and can goe no where single, but one or other wilbe on their iacks) they gather altogether in a cluster, for their safty in one side of the hiue: so that it is true at some time which the Philosopher spake indefinitely, *Tenent alues locum penitiorem.* Pl.l.11.c.11

19 *Where they ly.*

Hist.l.9.c.40

orem. And yet their hanging together will not serue their turne: for the Bees, when they are disposed, will quickly make them part, and depart. When there is no vse of them, there will be no roome for them.

20 *The male-bees are subiect to the females.*

For the drones are but vassales to the hony-bees, which as they doe excell them in virtue and goodnesse, so doe they also in power and authoritie, ruling and over-ruling them at their pleasures. *Sunt quasi seruitia verarum apũ: quamobrem imperant ijs.* For albeit generally among al creatures the males, as more worthy, doe master the femals; yet in these the femals haue the preeminence: and by the Gramarians leaue the feminine gẽder is more worthy then the masculine, *hac apes* then *hic fucus*, *hac Nympha* then *hic Cephen.* But let no nimble tonged Sophisters gather a false conclusion from these true premisses, that they by the example of these may arrogat to themselues the like superioritie: for *Ex particulare non est syllogizare*, & he that made these to command their males, commanded them to be commanded. But if they would so fain haue it so, let them first imitate their singular virtues, their continuall industry in gathering, their diligent watchfulnes in keeping, their chastitie, cleanlinesse, and discreete œconomie, &c. And then, if they meete with such idle dotrels as these drones are, they may with lesse blame borrow a point of the law

Nat: hist, l. 11. c. 11.

and

and enioy their longing.

Yet this they may note by the vway, that albeit the females in this kinde haue the soueraignty, yet haue the males the lowder voice, as it is in other living things, doues, owsils, thrushes, &c: the males being knowne by their soūding and shril notes frō the silent females. Yea the wiues themselues wil not suffer that hen to liue, which presumeth to crow as the cock doth: nature teaching that silence, and soft noise becommeth that sex.

21 *When the Bees leaue breeding & beat away their drones.*

The Bees breeding or laying of seeds beginneth to cease, in some by *Leo*, in some not before *Virgo*. After which time these [a] Amazonian Dames, having conceiued for the next yeere, begin to send away their mates, & to kill those that afterward force in among them.

22 *The Bees cōpared to the Amazons.*

[a] Amazones bellicosæ erant Scythiæ mulieres, quæ cum viris exulantes in Cappadociæ ora iuxta amnem Thermodontæ consederunt: vbi, viris plerisq; per insidias accolarum trucidatis, reliquos qui domi remanserant, vt ipsæ solæ rerum potirentur, interficiunt: & armis sumptis etiam cum contēptu hostium se strenue tuentur, & imperium longe lateq; in Europam & Asiæ partem tandem proferunt. Ne vero genus periret, finitimis tanquā maritis vtuntur: quos officio functos abigunt: Atq; quot pariunt virgines fouent, & armis exercent: masculos vero duræ enecant, vnde eas Aeorpata i. Viricidas appellant Scythæ, vt tradit Herodot. l. 4. Prima harum regina Marthesia dicebatur: quæ plures quidem peperit filias, vt Antiopen, Orythiam, Menalippen, & Hypolitem: è quibus duæ maiores natu matri successerunt, cæteræ imperium non sunt adeptæ. Amazonum itaq; regnum apum rempublicam aptissime refert: Marthesia apum reginam quę plures solet producere fœtus: Antiope & Orithya primores filias, quę pri

mu n & ſecundum examen educunt, ijſque moderantur: Menalippe & Hypolite eas principes quæ aut nequaquam aut nequicquam dominantur. Nam poſt ſecundũ examen aut in alveis morantes morte multantur, *v.c.* 1 *n.*7. aut egreſſæ fere fame pereunt, *v.c* 9 *n.*1 Vtriuſq; etiam populi mores non minùs conveniunt: nam & apes fœminæ ſunt bellicoſæ, quæ non modo Europam & quandam Aſiæ partem, vt illæ; ſed vniverſa orbis terrarum imperia poſſident: quæ ſui ſexus proles ſumma itidem cura enutrientes mares omnes tam viros quã filios cædere ſolent: vt & ipſæ vere Aeorpata dici poſſint.

23 *They rid not their drones all at once.*

But becauſe in the ſame hiue they doe not leaue breeding all at once; therefore neither do they kil their drones al at once: but at the firſt taking away only the ſuperfluous, they ſuffer as many as they need, to remaine lõger: ſome ſometime a whole month after.

24 *When forward ſtalls begin.*

25 *When the backward.*

The forward ſtockes that haue caſt their laſt ſwarme in *Gemini*, or ſoone after, begin at *Leo*: the backwarde ſtalles that caſt not their laſt ſwarme much before *Leo* may ſtay til the ende of the ſame month: but vſually about *Virgo* or a weeke after, they make a cleane riddance of them.

26 *When full ſtockes that haue not ſwarmed.*

Thoſe ſtockes that being full haue not ſwarmed at all, becauſe they are rich and feare no want, vſe to ſuffer them ſo long and ſometime longer, even to the ende of this month.

27 *When thoſe that are overſwarmed.*

Thoſe ſtockes that haue overſwarmed themſelues, partly becauſe they haue hony enough, and therfore can ſpare the drones their diet; and partly becauſe they want Bees and therefore are willing to breede as long as may be; ſomtime keepe them till toward the end of

Virgo

Virgo, somtime kil them not at all: but let them alone, vntill they die by nature: which is not long after: for few of them can liue til *Libra*, & &the yongest not to the end of that month, *v.* Take heede to such stalls, for they are likely to die. *v.n.*

28 *The drones first banished are welcõe to other hiues*

Those drones that are beaten away betime are easily admitted into other hiues. Ten dates before *Virgo* I once saw all the drones of more then a dozen stals gathered into one of them; where they were so thicke in an afternoone, both within, and without the hiue, that the little Bees could not passe for the thronge. But in the ende for the most part they finde Tomme Drums entertainment: and those that are not content therewith, but wil force in againe vpõ them, they strike with their speeres: you maie somtime see a handful or two before one hiue, which they bring foorth when they are deade within: but the greatest part flieth away, & dyeth abroad. For the drones are so great & strõg, that they complaine not presently as the small Bees do, but fly away lustily when they haue their deaths-wound, as though they ailed nothing. Somtime, when they see tis time to rid the hiue cleane, they wil draw the yong cephẽs out of their cels while they are white, not suffering them to liue til they be ripe.

29 *In the end they are all killed.*

30 *Some die in the hiue.*

31 *But most abroad.*

32 *Somtime the Bees cast out euẽ the white Cephens.*

Those that sooneest rid their drones, are likely to be forwardest the next yeere. Sometime the

33 *Timely ridding of drons a good signe.*

34 *Sometime they rid their drones in the spring.*

35 *And afterward breed new againe.*

the drones are so vsed in the spring. For when forward stals (which in their heat are bold to fly abroad while others dare not wagge) haue lost many of their nymphs in a tẽpestuous & stormie spring; they wil therefore destroy their drones also: but having formerly conceived by them, they then begin the world anew as after an other winter. And first breeding nymphs in the end they breed cephens againe: which if they can compasse before swarming time be past, they will swarme that yeere; otherwise they wilbe fat & ful, & excellent good either to keepe or kill.

Of

Of the ſwarming of Bees, and the hiuing of them.

CHAP. 5.

THe ſtocks having bred and filled their hiues do ſend forth ſwarms. A ſwarme doth conſiſt of al ſuch partes as the ſtocke doth, namely of a queene-bee, hony-bees as wel old as yōg, and drone bees. 1 *The parts of a ſwarme.*

If any man deſire to ſee the queene, he hath now opportunity, when ſhe goeth forth vvith her ſwarme: *v.n.*27. and dead ones he may find many before the ſtooles when the ſtocks haue caſt their laſt ſwarmes, *v.n.*29. and alſo when many meete in one ſwarme, *v.c.*1.*n.*7. 2 *When you may ſee the queene bee.*

Men thinke that the ſwarme conſiſteth only of yong Bees, and that the old Bees only tary behinde: but indeed (though it may ſeeme ſtrange) the ſwarme is no yōger, thē the ſtocke: for there are in both of both ſortes. The yong Bees remaine in the ſtock with the old for their defence and for the greateſt labours, *v.* & the old ones go with the yonge in the ſwarme for their aid and guidance in their worke. 3 *The ſwarme no yōger thē the ſtocke.* *V.c.*1.*n.*55.

The drones they take with them for propagati-

v.c.4 gation of their kinde. *v.* And therefore thoſe

4 *Many drones in a ſwarme a good ſigne.* ſwarmes that haue many drones wil ſurely proſper: and if they be rathe wil ſwarme againe, vnleſſe they bee over-hived: whereas thoſe that haue ſevve or none, will increaſe little or nothing al the ſommer after.

5 *A kinde ſpring for ſwarmes.* A warme, calme, and ſhowring ſpring cauſeth many & rathe ſwarmes: whereas dry, windy, and cold-ſtormy wether doth then worke cōtrary effects. For it both hindereth the breeding, becauſe the old Bees at ſuch times wil go little abroad, and when they do, they find ſmal ſtate in the flowers; and alſo deſtroyeth the breed, becauſe the tender fry adventuring into the vngentle aire, are ſo beaten & chilled vpō a ſodaine, that few are able to recover the hiue.

Hiſt 5.c.22. Nat. hiſt. li. 11.c.17. *Augent mella ſiccitates, ſobolem imbres. Humido vere melior fœtus, ſicco mel copioſius.*

6 *Swarming wether.* Likewiſe in warme and calme weather the ſwarmes delighte to ariſe, but ſpecially in a gloome after a ſhowre; in extreme hot and dry wether not ſo: *v.* in ſo much that ſtals being ful and ready to ſwarme with the firſt, are ſomtime ſo kept backe with cold dry windes in *Gemini*, and vvith extreme heat & drought in *Cancer*, that they haue not ſwarmed at al that yeere.

V.m.19.

7 *The ſwarming houres.* The ſvvarmes vſe to come forth betvveene the hovvres of nine and three, but chieflie betvveene eleven and one. They chooſe rather the forenoone if the wether pleaſe them: otherwiſe

vvise they vvil stay for a faire howre in the afternoone. This time of the day therefore in the swarming months your Bees must continually be attended.

8 *The two swarming monthes.*

The swarming months are two, *Gemini* and *Cancer*: one month before the longest day, and an other after. I haue heard of a swarme vpon S. *Iames* his day, but surely those Bees had forgot themselues. Those that come in the ascending of the sun betweene *Gemini* & *Cancer* are rathe swarmes. Those that come in the descending betweene *Cancer* & *Leo* are late swarmes. But there are fewe that come in the first fortnight, and they very good: few also in the last fortnight, namely after S. *Peters*-tide, and they very bad. Yet the backwardnesse of the yeere, when it happeneth, may mend them much.

9 *Rathe swarmes.*

10 *Late swarms*

Those that swarme before the blowing of knap-weed, come in very good time, before the blowing of blackberies they may liue and doe wel; but blackbery-swarmes are seldome to be kept, vnlesse you meane to feede or driue thē. For they are more likely to die then to liue: & if they liue, they will not swarme the next yeere. And moreover they weaken the stocks frō whēce they came, which otherwise would swarme betime the yeere following: and then one such swarme is vvorth three of those lateward ones. Wherefore prevent their riling, *v. c.3.n.32.*

11 *Black-berie-swarmes are seldome to be kept.*

An

12 *A prime-swarme & an after-swarme naturall*

An old stal ful, or yeereling welnigh ful doth naturally & vsually cast twise, a prime-swarme & an after-swarme: although some full stals do not cast once, some but once, and some having many princes (specially whē the prime-swarme is broken) doe cast three or fowre times. For sometime it happeneth that in the going foorth of the swarme a blacke clovvde rising stayeth parte of them that are alreadie come foorth, and lie aboute the hiues-dore: sometime when they are al vppe either fearing a clowde, or disliking the lighting-place, or being troubled in the hyving, parte doeth returne.

13 *A stalie may cast 4. times.*

14 *Divers causes of breaking the prime swarm*

15 *One prime-swarm worth three after-swarmes.*

One prime-swarme is vworth tvvo or three after swarmes, except it be broken: and then if the residue come foorth in one entire swarme, that after-swarme may bee the better of the twaine: but if it bee divided into tvvo or three, then vvill they all bee but indifferent, vvhich can hardelie liue till the nexte sommer: and therefore must ether bee taken or fedde: except you put them to some other.

16 *The vulgar Bees appoint the rising of the fore-swarmes, & that vpon 4 grounds.*

The choice of the time vvhen the first colonies, or prime-svvarmes shall goe foorth, the rulers referre vnto the cōmons: vvho by reason of their continuall travell and businesse both vvithout and vvithin, doe best knovve vvhen all thinges are readie and fit for them:

First

First vvithin they vvill bee sure that they haue a Prince readie to goe vvith them, for without a governour they vvill not bee. Then that their hiue bee full, so that it maie bee divided at the least into tvvo or three sufficient companies: one to remaine vvith *Marthesia* the olde queene, an other to goe foorth vvith *Antiope* the prince, and a thirde happylie, vvhich together with the vnripe brood in the celles maie make an other svvarme to serue *Orythia*. VVithout likevvise they wil see, first that the flovvers be in state presentlie to furnish them vvith store of vvax and honie: then that the wether doe please them, as being vvarme, and calme, and moist, vnlesse, being continuallie vnseasonable, they haue no choice.

17 *Fiue signes of the first swarming.*

VVhen the hiues begin to be ful, they vvill dronie, or yeelde foorth Hedge drones: which is a signe that the first broode of nymphes haue beene a good vvhile flying abroade, and are now able to endure both vveather and labour, *v.c.4 n.16.*

Other signes of the hiues fulnesse and readinesse to svvarme are at the hiue-dore. First the Bees hovering in colde eveninges and mornings. Secondlie the moistenesse or sweating vppon the stoole. Thirdly their hastye running vppe and downe. Fourthlye their first lyinge foorth in foggie and sultrie mor-

mornings and evnings & going in againe whē the aire is cleere. But this last signe is seldome seene in temperate weather.

18 *The signe of present swarming.*

Sometime, when they swarme, they fly away as fast as they come forth: but for the most part they first gather together without at the dore not only vpon the hiue, but vpon the stoole also: where when you see them begin to hang one vpon another in swarming time *v.* & to grow into a cluster that couereth the stoole in any place; then be sure they will presently rise, if the weather hold. The first that come forth will increase that cluster to some fourth part of the swarme: and then begin they to fly away first out of the hiue, and after from the cluster: &c. *v.n.27.*

v.n.7.

But here you must note that as to fill the hiues dore, or to ly forth a little now and then in foggie or sultrie mornings and evnings (which is because then they are most offended by heate within and can best indure the aire abroad) & otherwise to goe in againe, is a signe that the hiue is full, and therefore are like to swarme shortly after; so to ly forth continually (as in extreame hot and dry sommers they vse to doe) vnder the stock or behind the hiue &c. specially after *Cancer* is come in, is a meanes to hinder their swarming. For the Bees knowing by nature that the greatest companies doe prosper best; vntil they find themselues so pes-

19 *To ly forth continually is a signe they will not swarme.*

tred

tred with heate and throng of multitudes that the hiue can ſcarce hold any more, wil haue no mind to ſwarme. And when they haue once taken to ly forth, the hiue wil alwaies ſeem empty, as though they wanted company.

20 *How to remedy their lying forth*

To remedie this, you muſt in hot weather keep the hiues as coole as may be, by watering and ſhadowing both them & the place where they ſtand.

If this cauſe them not to keepe in; then about eight or nine of the clocke in cleere and calme weather, driue them gently into their hiues with your bruſh *v.* and ever now and thē *v.n.39.* powring a little water downe the forepart of the hiue, keepe the doore coole and moiſt vntil either the Bees bee gon in or it be about 10 a clock: afterward let them doe what they liſt happily (if the wether like them) they wil come forth and ſwarme: vnleſſe they haue no prince to goe with them, without whom they never remoue. Thus may you try them 5 or 6 daies ſo it be before Midſommer, and before the honydewes be rife: for it is pitie they ſhould looſe their part of them. Therefore if by that time they ſwarme not, ſuffer them no longer: but if the ſtall be a yeareling, reare the hiue and let the Bees in: and then will they enlarge their combs and gather hony which before lay idle abroad, and increaſe almoſt to as much profit, as if they had ſwarmed, by the next yeeres

great

great and timely swarmes. But if the stall be of many yeeres, then turning the bottome of the hiue vpward set a leere prepared hiue fast vpon it: into which they wil ascend and worke and breed there as well as in the old. At *Libra* you may driue *v.* them all into the new hiue, and take the old for your labour.

v. c.10. par. 1. n.17.

21 *The signes of after swarms*

The signes of the after-swarmes are more certaine. For whereas the rising of the prime-swarme is appointed by the vncertaine vulgar, whose chiefe direction is the fulnes of the hiue; the hiue being now well emptied, for other swarmes there needeth some other warning, which the rulers themselues doe giue by their voices: without which that stock will swarme no more that yeere. And yet the choice of the hower, yea and of the day among foure or fiue is permitted vnto them, as best knowing the disposition of the weather.

22 *The rising of the after-swarmes is appointed by the rulers.*

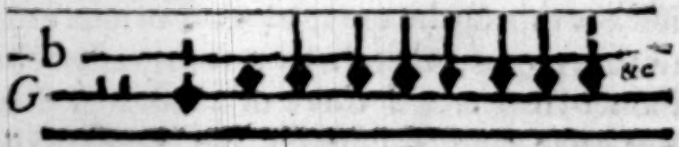
23 *When they begin to call or sing.*

When the prime-swarme is gon (if the stock shal swarme any more) the seauenth or eight evening after, somtime the ninth, tenth, or eleuenth, the next prince, when she perceiueth a competent number to be fledge and ready, beginneth the musick in a begging tune, as if she did pray hir queen-mother to let them go: wherevnto if she yeeld consent by hir answering (as to the petition of hir second daughter she seldome saith nay, though sometime shee consent not in two or three daies) then looke

for

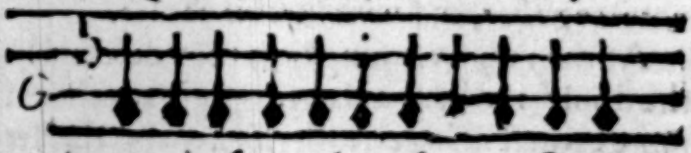
for a ſwarme: which ſeldome ariſeth the next day, vnleſſe the weather be very pleaſãt: but after two or three daies they will accept indifferent weather. I haue not knowne any ſtay after the fift day.

They ſing both in triple time: the princeſſ thus 24 *The Bees muſicke.*



with more or fewer notes, as ſhe pleaſeth. And ſometime ſhe taketh a higher key, ſpecially toward their comming forth, and beginning the od minim in *A la mi re* ſhee tuneth the reſt of hir notes in *C ſol fa* thus,

But the Queene in a deeper voice thus,



continuing the ſame, ſome foure or fiue ſemibriefes, and ſounding the end of every note in *C ſol fa vt*. So that when they ſing together, ſometime they agree in a *perfect third*, ſometime in a *Diapente*, & (if you reſpect the termination of the baſe) ſometime in a *Diapaſõ*. With theſe tunes anſwering one another, and ſome

pawses betweene they goe solemnly round about the hiue, so to giue warning vnto all the company. This they continue daily vntill their swarming: but you may heare them best in the evenings and mornings. If there be many of the Queenes breed that are ripe, they will ioine with her in hir tune, the more to incite the swarme to goe, that their turne may come the sooner: I haue heard three of them together. But none dare counterfeit the voice of the Prince: for that were treason to hir person. And yet sometime one of them, in hope to part the swarme, wil steal out with her: but if the swarm be not parted, or being parted be put together in one hiue, it costeth her hir life: *v. c. 1. n. 7.*

25 *When you may best heare it.*

26 *Before the Bees swarme the voices come downe to the stoole.*

In the morning before the swarme come abroad, these Princes come downe neerer the stoole: and there they hold on their melodie somewhat longer, singing sometime aboue 20 notes togither, and with shorter pauses.

27 *The manner of their swarming*

At the very swarming time they descend to the stoole: where answering one another in more earnest manner, with thicker and shriller notes, the mainie begins to march along, thróging one another for hast, and buzzing with their winges in great iolitie.

As soone as these galant Nymphs are aloft, they doe most nimbly bestirre thémselues sporting and playing in and out as if they were dancing the hay, in this manner waiting for the com-

comming of their Prince. Now when some two third parts or three fourth parts of the swarme is passed, the musick ceaseth, and then commeth forth his stately dame *Orythia*: who walking two or three turnes before the dore, of purpose you would thinke to be seene, shee takes hir leaue, leauing but a smale traine to follow hir, which high them after as fast as they can. This decent order the great Lords of the earth seeme to haue learned of this little Lady: who in their country progresses, goings to Parliament, and other solemne processions, doe send the greatest and fairest part of their retinew before them, hauing behinde but a smale troope of necessarie attendants to gard their persons.

28 *The prime-swarme being broken, the next may call and swarm within the eighth daie.*

If the prime-swarme be broken, the second will both call, and swarme sooner: and by that occasion happily a third also may rise, yea and sometime a fourth: but all within a fortnight after the prime-swarme. After the second swarm I haue heard a yong Lady-bee call: but the Queene not willing to part with any more of hir company did not answer: and the next day she with seauē more were brought forth dead. *v*

29 *All the swarmes of one hiue cõe within a fort night.*

v. l. n. 7.

When a swarme is vp, it is a common fashion to make a harsh noise with a pan, kettle, bason, or other like thing, thereby to stay them from flying away. Which indeed is no new thing, as being vsed in *Aristotle* his time: *Gaudere*

30 *What to do whē a swarm is vp.*

dere etiam plausu (saith he) *atq; sonitu apes videntur. Quapropter tinnitu aeris, aut fictilis convocari in alveum aiunt.* But for any thing that I haue observed, if it doe no hurt, it doth no good: and the least they loose their labour that vse it. you see them begin to fly aloft, which is a token that they would be gon, cast dust amōg them to make thē come down. Notwithstanding do what you can sometime they will away, and perhaps fly so far before they settle, that though you follow them never so fast, you must be contēt to leaue them, happily to the happy finder. For whē you haue lost the sight & hearing of them, you haue lost all right and property in thē. *Examē q; ex alveo tuo evolaverit, eousq; intelligitur esse tuū, donec in conspectu tuo est, nec difficilis persecutio eius est: alioquin occupantis est. Iustinian. l. 2. institutionum iuris. tit. de re: divis.*

Sue swarmes provide thē houses afore hand.

Sometime they wilbee provided of a house before they swarme, which some harbingers haue found, and viewed, and dressed against their comming: as either a holow tree, or a void hiue: and then wil they away presently, and by no meanes settle til they come thither. Vnto which place they wil flie, not, as at other times, vncertainely this way and that way; but as directly as they can guesse. In so much that if a tree stand in their way, they wil nether take the one side nor the other, but passe straight through him. A poore woman having taken

32 and thē they flie away directly to the place.

a poore

a poore swarme to keepe for halfe, by newe-yeere stide lost hir owne part and hir partners: and being careless of the hiue when the Bees were dead, shee let it stand abroad til shee had forgotten it: the next sommer comming into hir garden, shee found some Bees passing to & fro hir hiue, which were then busie in clensing and dressing it: she wisely fearing that the Bees came to cary away the wax that was leaft, bad hir daughter take the hiue and carry it in: the wench following hir play did happyly forget hir mothers command: & by that meanes the hiue stood stil, til the vnexpected swarm came, that afterward stored hir gardē. It is not amisse therfore to follow the councel of *Columella. Oportet antē vacua domicilia collocata in apiariis habere. Nam sunt non nulla examina quæ cum processerint,* [e *statim sedem sibi quærant*] *in proximo, eandemq́ occupent quam vacuam repererint.*

33 *Vacua alvearia stēt semper parata in apiario.*

[e] Seu potius prius quæsitam, lustratam, & paratam adeant. v. n. 31.

34 *The hiving of Bees.*

When your swarme hath made choise of a lighting place, you shal quickly see it knit togither in forme (if nothing let) of a pomegranat, or cluster of grapes. Assoone as the better part is settled, or at least assone after as may be, hiue them. For the lōger they hange the lother they are to be put frō the place, the more time they loose from their worke, & the more in danger are they to bee gone. For when they are once

35 *When they are to be hiued.*

setled, they presently send forth spies, to search out an abiding place: who if they returne with good news before swarming-time be past that day, they rise presently, & are gone: otherwise they wil stay till swarming time the next daie.

36 *The token of their flying away after they bee setled*

But whensoever the spies haue sped, they returne withal speed, & no sooner do they touch the pomgranate, but they begin to shake their wings like as the Bees doe that are chilled: which the next perceiving do the like: and so doth this soft shivering passe as a watch-worde from one to an other, vntill it come to the inmost Bees: wherby is caused a great hollownes in the pomgranat. Whē you see them do thus, then may you bid them farewel: for presentlie they begin to vnknit, and to be gone. And thē though you hiue them never so wel, they wil not abide.

37 *How to fit the hiues to the swarmes*

Whē you see your swarme, first make choice of a hiue fit for it. If you would haue it to cast the next yeere, you must take a hiue proportionable to the bignes & time of the swarme. A swarme of the beginning of *Gemini* put into a hiue that contemeth thrise so much as the swarme is: A swarme of the beginning of *Cancer* into a hiue that contemeth twise so much: And others as they come later, so let the hiues bee lesse in like proportion vnto these: So that the Bees may fil their hiue that yeere, or at the least within a hadful or little more, which they may make

make vp the next yeere in good time. For they wil seldom swarme before the hiue be full. For example: a swarme of a peck at the beginning of *Gemini* should haue a hiue of three pecks: & such a one at the beginning of *Cancer* shoulde haue a hiue of halfe a bushel. 38

But if you desire to haue great & faire stals, because little ones are not so wel able to defēd themselues against their enimies, namely weather, waspes, and robbers; then let your hiues be of a bushel or thereabout, if the swarmes may at the least halfe fil thē the first yeere: for then wil they throughly fil them the next, and perhaps swarme: & the third yeere if it be kind they wil not faile. But then are they to be kept warme the first winter, *v.* Otherwise you maie put two good swarmes togither, *v.* and then they wilbe able to keepe themselues warme. 39

How to make your stals great

v.c.3 n.38.

v.n.52.

Your hiue being fitted & dressed, you must haue also in a readines a Mantle, a Rest, and a brush. The Mātle may be a sheet or half sheet, or some other linnen cloth an ell square at the least. The rest is a three-square sticke eighteen inches long, & three inches thicke. The Brush is a handful of benets, hysop, or other herbs, or boughs bound taper-wise togither. 40

A Mantle a Rest and a Brush alwaies in a readines.

Al things necessary thus prepared, let the hiver, which must weare no offensiue apparel, *v.* first drinke of the best beere, and wet his hand and face therewith: and then let him go about

What the hiver must doe.

v.c.6.n.25.

his busines soberly & gently taking good heed where he sets his foot & how he handleth thē: for if hee treade vpon a Bee, or by any other meanes crush one of them; they presently finding it, by the ranke smel of the poisonous humor, wilbe so angry; that he shal haue work enough to defend him selfe, vnlesse he haue on his complet harnis, *v.* and being thus disquieted they wilbe the worse to hiue.

Ex. 7. n. 38.

41 *The manner of hiuing.*

The mānerof hiving is so manifold, by reasō of the many and different circumstances of the lighting places, that it can hardly be taught by precepts; but is rather to be learned by vse and experience, guided with reason and discretiō. Nevertheleſſe for the helpe of novices, I vvil set downe some particular instāces, which may serue for direction in al other.

42 *How to hiue a swarme that lighteth vpon a low bough*

When your swarme lighteth vpon a bough, if it bee within two foote of the ground, first spread your Mantle right vnder it, and laie the Rest vpon the Mantle about a foot from the midle, toward that side which is frō the winde, if the winde be rough: otherwise set it towarde the sun: for there must be their way in and out the hiue. Then cut the bough (if you may conveniently) & lay it on the mantle along by the Rest, & set the hiue over it, so that on side may stay vpon the Rest and hang out over it some 3. inches. If there be any other boughes with bees besides, lay them vpon the mantle by the

hiue

hiue, which if you wag nowe and then a little they wil make the more speed into the hiue. Otherwise you may shake downe the Bees vpon the mantle; and set the hiue over thē as before, and they wil presently vp into the hiue. Otherwise you may shake them into the hiue, & set the hiue vpon the Mantle and Rest as before. And if any begin to knit againe vpō the bough, cease not to shake it, or else, whe they are knit, cut the bough, and lay it by the hiue.

And if some of them bee fallen to the grounde, then placing the Rest as neere vnto them as may be, set the hiue over them as before without a mantle, and the rest of them having cut the bough or boughes lay beside the hiue.

43 *How if it light vpon a high bough.*

If the bough be higher, cut it of likewise: and if some of the swarme chance to fal in the cutting, then hold the bough in the place, till they be settled againe, and so bring them downe in your hand: or for more suretie let an other second you with the ready hiue holding it directly vnder the swarme: thē hauing first taken away al the twigs of the bough that may let you, cut of the bough or boughs (for sometime they will hang vpon two or three) & put them into the hiue: & so bringing them down, set the hiue vpon the Mantle and Rest, as before. But if the tree be very high, and you want alader or other meanes to come downe gently

ly

ly with them in your hand; you may let them downe by a corde. Then shake them from the bough vpon the Mantle, or into the hiue, and doe as before.

44 *How if it light vpon a bough that cannot be cut.*

If you cannot conveniently cut the bough, your next way is to shake the Bees into the hiue, and, presently, covering the bottom with a cloth, to bring them downe; and then taking away the cloth set the hiue vpon the Mantle as before. But then you must looke that many will rise againe, and not easily forsake the place. For which cause you must not cease to trouble them by shaking the bough, wiping them of gently with your Brush, and laying on mugwort, marges, nettles, or other weedes, or hearbes, and by spitting and blowing vpon the place: and after a while they will all to their felowes in the hiue.

45 *How if it light vpon the body of a tree.*

If they light vpon the body of a tree, or vpon some great arme that will not be shaken, then set one side of the hiue right over the Bees, & with the Brush driue them vp by troubling still the lower and waiward part. But if you haue no meanes to fasten the hiue by tying it aboue, or propping it beneath with prongs or the like, then must you be faine to sweepe them into the hiue with the Brush (not in any wise with a goose wing *v.* as some vse to doe) and then setting them on the Mantle and Rest vnder the tree, trouble the place as before

V.c.I.n.23.

If

If they light on the top of any thing, as of a stub, pollard, or hedge; set one side of the hiue over thē propping the other side with a prong or two, and driue them vp as before. 46 *How if it light vpon the top of any thing.*

If they light in the middle of a dead hedg (vnlesse you can, by remouing some sticks, cōveniently come at them to driue them in) you must violently knock the hedge on the other side, so forcing the Bees into the hiue: and then setting them downe, trouble the place as before. But then be sure to be troubled your selfe: for it is hard to get them from such a hold. 47 *How if it light in the middle of a dead hedge.*

If they light on some hollow side of a stub or tree, which they wilbe loth to leaue, beware in any case you wet them not, for that doth not only drowne many, but also maketh the rest more eagerly keep the place: because some through the wet cannot fly away, and their felowes finding them there will still resort vnto them. But when you haue moued them by other meanes as much as you may, put some morter or cloome into the hollow place, mouing it forward by little and little so that you burie none of the Bees, vntil you haue spread it over the place: and then will they presently forsake that, and take some other part of the tree or stub, where you may more easily hiue them. 48 *How if it light on some hollow side of a stub, or tree*

When they fly into a hollow tree, so that by none of the foresaid meanes you can hiue thē, then must you remoue them by some offen- 49 *How if it fly into a hollow tree.*

sine smoake, and make them chuse a new lighting place: which is thus to be done. If the Bees ly aboue the hole where they went in (as they will doe if they may) then boare a hole aboue them: if beneath, beneath them: but be sure that the vpper hole be wide enough, rather then fail make two or three with a two-inch-auger. Thē fire a piece of match, or for want of match, take a little hay, or other thing that will smoke moderately, and not flame; and put it into the tree beneath them: and you shall see them fly forth aboue for life, & presently settle in some place where you may hiue them. But this is to bee done the same or the next day at the farthest: for afterward they will abide the smother, and rather loose their hiues then leaue their goods.

The swarme is alwaies to be kept together lest the Bees kill one another.

But in all manner hiuings this one rule is generall. The swarme must be continually kept together: for if at that time part remaine from the company but the space of halfe an houre or lesse, afterward when they find them, and would returne vnto them, they are vsed as strāgers and robbers: for as fast as they come they are beaten and killed: and those that escaping thence goe back to their old home, find no better entertainment: and those few that escape thence, desperatly runne into any other hiues, and so leape out of the frying-pan into the fire.

And

And therefore when the ſwarme is hiued, if you ſee part begin to gather together by themſelues, remoue them as ſpeedily as you can, that they may goe to their fellowes in time.

52 The ſwarme to be ſeneer the lighting place.

And alwaies ſet the hiue as neere the lighting-place as maybe: which if ſome inconvenience wil not ſuffer you to doe, yet ſet it within the length of a pearch, or at the leaſt within ſight & hearing: and then leſt thoſe which are leaſt at the lighting place, by looſing their company a while, looſe their liues alſo; firſt trouble them by the meanes mentioned *n.* 43. & then cauſe ſome of the hived parte to ariſe by ſhaking thē of the bough, and by wiping them downe that are on the outſide of the hiue. Which, when they are vp, will make ſuch a noiſe, that their fellows may eaſily finde them. And if ante yet hankering behinde chance to be ſet vpō when they come to the hiue, be-ſprinkle the mantle, the hiue, & the Bees with a little ſtrong drink, and you ſhal part the fray.

And if any man marvaile why they of the ſame ſwarme ſhoulde ſo ſoone be ſtrange one to an other, ſeeing that Bees of one hiue being pent a whole day in an other, are yet welcome to their fellowes at the laſt; I can giue no other reaſon but this, that they knowing a ſwarme may part, & ſo each part become a ſeveral cō-

pa-

pany, they deeme these to be such by their lōg absence. And if you aske why they shoulde finde so hard entertainment in their old home frō whence they came, it is because they went away with a governour of their owne, and so became a several company. And therefore if she bide away, as many as come backe (vnlesse they come presently) are vsed as strangers: but if part haue brought hir home againe, the rest do safely returne afterward, either that evening, or the next morrow.

51 *What to doe if a swarme part.*

If the swarm part, as somtime it wil, & settle in divers places so neer that they may see each other; let the greatest part alone, specially if it be best to hiue, & trouble the other in the setling with shaking, gentle rubbing with weeds, and spitting & blowing in the place, that they may go to their fellowes. If they be setled & hang vpō a bough, cut the bough and bring them to them. If they be settled in some other place, then put them in a hiue without spleets: and if they bee within a pearch of the other parte, moue them both, one towardes an other by little and little til they be close togither. After they haue stoode so about halfe an howre, lift vp the spleeted hiue frō his Mantle & Rest, and shake the bees out of the vnspleeted hiue vpon the same: you may first knocke the hiue downe right vpon the mantle, & then presently clap it twise or thrise betweene your hands.

This

This done sprinkle both parts with good drink, and then without any stay set the spleeted hiue over them and they wil straight way vp into it. But lay the vnspleeted hiue along hard by, not where it stood, but on the other side: and those that remaine in it wil follow their fellows. But if the parts be farther a part then a pearch, thē driue them togither the same night, *v.c.* 10. *p.* 1. *n.* 17. beginning at *late in an euening, &c.* vnto *and forthwith carrie*, & when by clapping of the stranger you haue gotten as many Bees forth as you can, first pul out the little combe that they haue made, putting it into the receiver: & then vse the hiue as the vnspleeted hiue.

58 *Whē & how to put two swarmes together.*

In like manner when you haue little swarms about a gawne or vnder, specially after *Cancer*, put two or three of thē togither, whether they rise in the same day, or in diuers: (but thē make that the receiver which was first hiued.) For being thus vnited they wil labour cheerefully, gather store of wealth, and stoutly defend thē-selues against al enimies: whereas if they vvere kept a sūder, they would surely perish the next robbing time, or winter; or liuing would doe you little good. And thus may you do to those that are good, if you desire to haue them excellent good, *v.* And therefore if two swarmes rising at the same time do weld & knit togither, (as lightly they wil doe, if they be within heating one of another) never trouble your selfe *v.n.* 38.

to

to part them, nor be sorry for the chance. For those two being all one, are better then three such that are alone. Wherefore they are little acquainted with the nature of Bees that fetch their similitudes from them to crosse that rich, mighty, renowmed, thrice happy *Union*. In ioining two swarmes together vse them as if they were two parts of one: And if they rise in divers daies, driue the later into the former.

54 *How to stay a swarme that is going home again.*

When a swarme vpon some dislike goeth home againe, if you perceiue it before many be entred the hiue, shut the dore: so will they settle vpon the hiue, where you may easilie hiue thē. For the swarmes that returne into the hiue do somtime stay long before they rise againe, & when they rise, specially if they were hived, they are likelie to fly away: although I haue knowne a swarme to rise fowre times in three daies, and at the last to be quietly hived.

55 *How to keep them from other hiues when they ar going home*

If anie of them bee going into an other hiue (as somtime, where the hiues stand neere together they wil do, because they cannot discerne their home for their fellowes that are so thicke before the dore) shut that hiue, or stand before it: for as many as enter will die, or scape narrowly.

56 *What to doe when the swarme is new-hived*

When your Bees are hived, those that hang on the outside driue in gētlie with your brushs and lay the corners of the Mantle, that are farthest from the Rest, over the hiue, with boughs

also

also to shadow it, if the weather be hot. But if you find them vnwilling to goe in (as in extreame hot weather they wilbe, though they like the hiue wel enough) then striue not with them; but laying the corners of the Mantle ouer the hiue, as before, with boughs to shade it, there suffer them til the heat be abated, and then driue them in: and if you thinke they cānot otherwise wel endure the heate, couer the hiue againe with Mantle and boughs. And so let it stand til it wax dark, and all the Bees be come home.

57 *How to remoue it in the euening.*

Then knitting the foure corners of the Mātle together, at the top of the hiue, and binding the Mantle about close to the middle of the hiue with a smale line, cary the swarme to his place. And after a while, taking away the Mantle, set it vpon his seate with the dore toward the South or rather Southwest: *v.* and leaving only a breathing place, for feare of stifling them if the hiue be close, then cloome it vp close, and put on a hacle *v.* and so let it stand til it bee faire and warme the next day. For if the hiue be leaft opē, in the morning betimes they wil resort to their former standing and there abide, sōtime flying about, sometime settling on the groūd: where if the cold or wet take thē many dy. Whē you see the weather fit thē, thē hāging the Mātle, or other whit cloth vpō the hiue, let them go: & at night take away your Mantle

58 *How to set it on his seat.*

V.c.2.n.15.

V.c.3.n.13. & 19.

59 *How to vse it in the morning.*

 again.

60 *A swarme lightingneer his seat is presently to be set thereō.*

againe.

If the swarme light in your garden within a perch of the seate that is appointed for him, it is best to set it there at the first. So will not the Bees loose any time the next day in haunting an other place, as knowing their home: and therefore need no white cloath over them for their direction, nor to be shut in in the morning as other swarmes.

All swarmes, if the morrow be faire, will desire to be abroad betimes, and knowing their want, wil bestirre themselues more lustily in their labour then other Bees.

61 *Foul wether the first day doth much discourage a swarme.*

But if the fowle weather keepe them in the first day, then are they much discouraged: the next day being indifferent, when other Bees worke hard, they will scarce looke out of the dore, not daring to commit their leere & thin bodies to the cold aire. And if they be shut in the second day also, then will they not wagge (though they dy for it) vntill the weather bee very pleasant. They may liue fiue daies in the hiue without hony: but afterward they begin to string downe hāging one at anothers heels. *Pedibus connexæ ad limina pendent.* Which is a certaine signe of death, if they be not presently relieved with hony and faire weather.

62 *A swarme may liue 5 daies without hony.*

Of

Of the Bees worke, and labour.

CHAP. 6.

Nto the induſtrious nature of Bees nothing is more odious then ſloth and idlenes: while there is matter to worke vpō, vnles they be let by vnkinde weather, their labour never ceaſeth: yea the old Bees, which haue ſpent their daies in continual labour, wil not at the laſt alow themſelues any immunity or reſt in their hiues, as a recompence for their paines paſt, but cōtinue ſtil their travaile vnto death: *v.* In the three dead months indeed, *Sagit. Capric.* & *Aquar.* becauſe then there is nothing to gather, they worke not, (yet when a faire daie or howre commeth they fly abroad to play & recreat themſelues: *v.*) but ſo long as any good flowers grow, even from *Piſces*, or a litle before vnto *Sagit.* and ſome yeeres ſomewhat after, which is full nine months, they looſe no time. *Nullus, dum per cælum licuit, perit dies.* But follow their ſweet worke tooth and naile.

1 *Bees moſt induſtrious creatures.*

v.c.1.n.54.

2 *In three months they cannot work*

v.c.1 n 55.

3 *All the yeere after they looſe no time*

Nat:hiſt, l. 11 c.6. Virg.

Ac veluti lentis Cyclopes fulmina maſſis
Quum properant, alij taurinis ſollibus auras

Accipiunt, redduntq; alij stridentia tingunt
Aera lacu (gemit impositis incudibus Ætna)
Illi inter sese magna vi brachia tollunt
In numerum, versantq; tenaci forcipe ferrum;
Non aliter (si parva licet componere magnis)
Cecropias innatus apes amor vrget habendi
Munere quamq; suo----.

4 How they gather wax.

Their work consisteth in making either wax or hony. The wax they gather with their fags: which being kept soft with the heat of their little bodies, of the aire, and of their hiues is easily wrought into combs. This worke is so nimbly and closely done, that it can hardly be perceiued: insomuch that *Aristotle* plainely confesseth. *Nec vero quemadmodum operantur visum adhuc est.* But *Plinie* willing to goe a little beyond him telleth vs a tale of a lanthorne-hiue made at Rome, through which forsooth their doings in the hiue were discried, & in another place of another like devise. *Multi alvearia speculari lapide fecêre, vt operantes intus spectarent.* But vnlesse the Bees also were transparent as well as the hiue, this cannot be: seeing they do alwaies frequently compasse the combes round about. A more likely way then that were to haue a moueable piece in one side of the hiue, which when you haue taken away, you may see the drones and the hony-bees walking together to and fro, and with their doubled heat hatching their yong, but their worke cã you not see: though

Hist. l. 9. c. 40.

Nat. hist. li. 11. c. 16.

Nat. hist. lib 31. c. 14.

though you remoue and pare the Bees til the bare combes appeare. But if your curiositie would so faine behold the maner of their curious & artificiall building, the only way is this. In *Gemini* set vp a last yeeres midling swarme two or three handfulls aboue the stoole: & thē when most of the Bees are abroad, but most fitly in the forenoone when they are most quiet, you may behind the stole behold them working on the edges of their combes, and hauing blowne their liquid and soft wax out of their mouths (as the waspes doe their drossie stuffe, which you may see them gather frō pales with their fanges and so carrie it away) to fasten and fashion it with their fanges and forefeet.

5 *How you may see the working of the combs.*

How much wax they bring at once, doth appeare by the new swarmes whose first weekes worke is spent chiefly in building combes: wherein they are so earnest, that it falleth out with them as it is in the proverbe, *The more hast the worse speede*. For many of their burdens do fall from them before they can fasten them to the combes. You may then see great store of them vpon the stoole by the skirts of the hiue, like vnto the white scales which fal from yong birds feathers. And therefore some haue imagined, that they also are scales, which the yong Bees doe likewise shed from their wings. But put you some of those parcells together with warme fingers, and you will quickly be resol-

6 *How much wax they bring at once*

ved of that doubt.

7 *The fashion of their cõbs and celles.*

The Bees combes are placed otherwise thẽ the waspes: for the waspes hang theirs one ouer another, and the Bees theirs one by an other. Beginning them in the top of the hiue, at that distance that a Bee may reach from one to another.

Their cells or little hoals are made six-square according to the number of their feet; and of that length and widenesse, that each of them may easily conteine a Bee. Which are so artificially wrought and ioined together, that S. *Ambrose* in the consideration thereof saith. *Quæ castra quadrata tantum possunt habere artis & gratiæ, quantum habent crates fauorum, in quibus minutæ ac rotundæ cellulæ connexione sui invicem sul. ciuntur? Quis enim architectus eas docuit hexagoniaella cellarum indiscreta laterum æqualitate componere, ac tenues inter domorum septa ceras suspendere, stipare mella, intexta floribus horrea nectare quodam distendere?*

Hexamer. l.5.c.21.

The vse of these cells is to lay vp their hony in, and to breed their Nymphs.

8 *The drone-combe.*

Besides these ordinary combes there is commonly one drone-comb in a hiue, wherein the Cephens are bred, made for the nonce with wider celles. *Sunt loculi ipsi fucorum ampliores, & fingũtur seorsim quoq; per se faui fucorũ.* Although in some hiues the neather parts of the drone-combes be made out with Nymph-celles. The drone-

Hist.l.9.c.40

drone-combe being no thicker then others, & yet the drones longer then the ſmale Bees, they increaſe the length of his cels by couering them not with a flat couer, as they do the reſt, but with a deepe hollow one like an old wiues thrumbd cap: which afterward, when the drons are bred, they take away. And when thoſe cels are void of Cephens, they fill them as they doe the other with hony; yea and after ſwarming-time, if they want vpper celles for their hony, they wil not tarry til they come forth themſelues, but liking better their roome then their company, they draw them out of their ſeminaries before they be ripe.

9 *The queenes cels are built ſingle in diuers places.*

But the queenes celles are built ſingle, every one by himſelfe, and that in divers places of the hiue, ſome aboue, and ſome beneath: that, as other princes, ſhee may for hir delight remoue at hir pleaſure: but for the moſt part in the outſides of the combes: for although it be fit for princes to be neere their chiefe cities, yet doe they not loue to bee peſtered in the midſt of them. In faſhion they are round, which is the moſt perfect figure, as the ſix ſquare is moſt fit for comely ioining many ſuch buildings together. They are alſo larger then the reſt, to ſhew that ſubiects houſes ſhould not match their ſoveraignes in greatneſſe. In theſe pallaces doe they breed their yong princes, *v. Plinie* ſpeaketh thus of them. *Regias imperatoribus extruunt amplas*

10 *In faſhion a round.*

v.c.4.n.15. Nat.hiſt.l. 11.c.11.

11 The commō error anent these celles.

amplas, magnificas, separatas, tuberculo eminentes. The common people finding them alwaies in those stals that die, take them for certain signs of death, and cal them pipes forsooth, or taps: and therefore when they see them in a stal that they take, they say this was taken in good time for it is piped, and therefore would haue stood no longer. But seeing none are without, no not the yongest swarmes, ordinary reason might teach them to forgo that fond conceipt.

12 The combes haue 3 colours successiuely.

The combs at the first are white, which they cal Virgin-wax: after the first sūmer they turne yelow: and in the end, when they wax old and begin to corrupt, they change againe to a blackish & durty colour.

13 Wax is gathered only in 4 months.

The time when they gather wax is only betweene *Taurus* and *Virgo*: vnlesse *Aries* bee warme and kinde, for then they may begin in that month.

14 Hony in 9

But hony they gather al the yeere, saue only in those 3 dead months, when the weather keepeth in both Bees and flowers.

15 The Bees gather 2 sorts of hony.

And it is of two sortes: the one pure and liquid which is called *Nectar*, the other grosse and solid, which we may by like reason tearme *Ambrosia*. For both serue for the foode of these diuine creatures.

16 How ambrosia or grosse hony is gathered.

The grosse hony is gathered by their fanges: from whence it is conveied by the fore-legs to the thighes of the hin-legs (*Quæ flores comportāt prioribus pedibus fœmina onerant propter id natura scabra, pedes priores rostro totaq; onusta remeant sarcina*

Pl. nat hist. l.11.c.10.

cina pandata) and that so nimbly, that vnlesse you haue a quicke eie, you can scarce perceiue it.

This worke may best be seene in the spring, whē they gather vpon the blackthorne: for then by reason of the cold they are not so quicke.

17 *Ambrosia, some serueth to feed the scadons: some is wrought with nectar and laid vp in store.*

In sommer, when they haue brought these burdens home, some vnload them into the dry cells for their yong to feed on, which are not yet able to fly abroad: others worke thē with the *Nectar*, which being of it selfe cleere and thin, is thereby made thicke and yelow. And in the beginning & ending of the yeere, look what they saue when the wether is faire, they lay vp for thēselues against a rainy day. Which while it is good they wil feed on, to saue their old store as much as may bee. But this kinde of hony is like vnto fresh fish: it must not long be kept. For if, being laide vp in the cels, by reason of plenty that comes in fresh and fresh it ly vnspent; after a while it corrupteth, and of sweet becommeth the sowrest and the most vnsauory of al things both to the tast and smell, which then they cōmonly cal stopping. Where there is any store of this stuffe, it doth so offende the Bees, that oft times it maketh them to forsake all. Most of them wil that yeere goe foorth in swarmes: and those few that are leaft wil never prosper, *v.*

18 *Ambrosia alone is soone corrupted.*

19 *And thē becōmeth most vnsauory stopping.*

20 *Much stopping maketh the Bees forsake their hiues.*

v.c.3.n.43.

Anent this leg-stuffe or grosse hony there is

21 This *Ambrosia* is commõly taken for wax.

a general error. For without al scruple or doubt men do count it & cal it wax: (as did some also in time of olde, whose opinion *Aristotle* doth thus deliver. *Ceram apes perreptando flores capiunt priorum acumine psãũ: mox priores in medios abstergunt, & medios in blæsa posteriorum.*) But against (as I shal shew you) both sense and reason.

Hist. l. 9 40.

22 *Which error is disproued by sense.*

If you put it to your tongue, it hath the taste of hony, which wax hath not. If you feele it beweene your warme fingers, it muttereth apart, where wax sticketh fast togither. If you put it to the fire, it melteth not, as waxe doth. And whereas wax is al of one colour, that is white at the first, *v.* evẽ as those little fallings of the new swarmes, (which is wax indeede) this leg-honie is of divers colours, white, black, yelow, green, red, tawny, oringe, murry, and of sundry midling colours. Therefore sense doth say it is no waxe.

v. 12.

23 *And reason.*

The reasons are two. The first is because whẽ they gather abundance of this stuffe, they haue never the more wax. The other because vvhen they make most waxe, they gather none of this.

For proofe of the first, All Bees betweene *Virgo* and *Taurus* do gather abundance of it: & yet are not their combes in this time any whit enlarged. Also one of those old stals that are ful of combes, doth carrie more of this matter al the sommer long then many swarmes: & yet haue

haue they no more wax at the end of the yeere then at the beginning.

For proofe of the other, The new ſwarmes within one weeke, if the wether ſerue thē, wil haue halfe filled their hiues with combs: & yet in al this ſpace ſhal you ſcarce ſee one carry anie of this. If you would knowe the reaſon why the ſtockes gather ſo much, & the new ſwrmes ſo little; it is becauſe the ſtockes haue *ſchadons* which they feed with part, & the new ſwarmes haue none: but the more part the ſtockes doe mingle and worke with *Nectar*; whereas the ſwarmes at firſt do lay vp pure *Nectar* onlie, *v.* And if anie fooliſh Bee do carry in *Ambroſia*, it is put a dry cell where it turneth to ſtopping, *v.* as I haue ſeene within a fortnight after the hiving.

v.n.26.

v.n.19.

And this though now it ſeeme new, yet was it knowne many ages agoe. *Plinie* writeth of it thus. *Præter hæc* (i. *præter ceram & nectar*) *convehitur eri thace, quam aliqui ſandaracham, alij cerinthum vocant. Hic erit apum dum operantur cibus: qui ſæpe invenitur in favorum inanitatibus ſepoſitus; & ipſe amari ſaporis.* Speaking in the laſt words of that which is corrupted. And before him *Ariſtot.* himſelfe thus. *Mell apibus tum æſtate tum hyeme cibo eſt: ſed recondunt alterū quoq; cibarij genus, cui duritiies ceræ proxima quod ſandaracham non nulli appellant.*

And by authoritie.

Nat. hiſt. l. 11. c. 7.

Hiſt. 9. c. 40

The *Nectar* or liquid hony the Bees gather with

25 *How the pure nectar is gathered.*

with their tongues, whence they let it downe into their bottels, which are within them like vnto bladers: each of them wil hold a drop at once. You may see their little bellies strut with all. Men thinke because they see nothing on their legs, that they come in leere: when they are better and more heavily laden then the other. These bottles, assone as they come home, they emptie into their combes, *Mel ore evomunt in cellas*. The swarmes beginning at the tops of the hiues do lay vp cleere *Nectar* onlie, that it may last many yeeres if they can spare it: afterward they worke *Ambrosia* and *Nectar* together. And this is the cause why the hony in the vpper part of the combes differeth from the rest which is alwaies yelow and soft; wherias that is cleere as crystal at the first, and liquid as water: and when it is two or three yeeres old becommeth white and hard. *Concrescit autem mel concoctum iam tempore: initio enim vt aqua dilutum est, & primis diebus sine crassitudine cernitur.*

Hist. an. l. 5. c. 22.

26 *At the first the Bees lay vp meere nectar: afterward they mix it with ambrosia.*

Hist. an. l. 5. c. 22.

27 *Nectar of two sorts.*

So that the *Nectar* or liquid hony is of two sorts: one hard and white even like vnto sugar, which is therfore called stone-hony, or corne-hony: the other so soft that it will runne, which therefore is called liue-hony. And the liue-hony is likewise of 2. sorts: that which is cleere & crystalline gathered by a swarme, and take the first yeere they cal virgin-hony which is there-

Stone-honie and liue-hony.

28 *Liue-hony of two sorts.*

Virgin-hony.

fore

fore the purer becauſe the cels are pure: the other which is yelow & thicker as being mixed with *Ambroſia* (and therefore in the clarifying yeeldeth more ſkum) is called ſecond honie. *Second hony.* The virgin hony by ſtanding turneth yelovv: but it wilbe a bright and pure yelow, whereas the other is darke and duſkie: except in plentiful yeeres of *Nectar*: for then the firſt ſhoot, *v.* if it be wel handled, wilbe litle inferiour to Virgin-hony. *V.c. 10. p.2. n.2.*

When the cels are full, they cloſe them vp with little filmes of waxe, which they wil not breake vntill winter and hunger driue them to it. And thus do they al the ſommer, deſcending lower and lower from one cel to an other, vntil *Virgo*: after which time they lay vp no more in ſtore. For hony then vvaxeth ſcarce abroad, & thence-forth they can gather no more wax to ſhut it in. As for that vvhich they purchaſe by fight & foraging, it doth thē litle good. For the moſt part of it they preſently ſpend; & if they ſaue any, they halfe fil a few cels with it, which being vncovered, ether them ſelues or ſome other theeues quickely devour, according to the proverbe, *Evill gotten goods are ſcone ſpent.*

29 *The full cels they cloſe with waxe.*

30 *After Leo they lay vp no hony.*

This true [d] *Nectar* and *Ambroſia* togither

[d] Wherewith Iupiter was firſt nouriſhed in the Ile of Crete while the *curetes* hid him frō Saturne. Which gaue occaſion to the Poets of this fiction, that the Bees were his nurces. *Dictæo cœli regem pavêre ſub antro. Virg. Geor. 4.* And afterward when they woulde make him immortall,

because of the long-preserving vertue that hony hath (*v.c.10.par 3 n.1.*) they feined it to be his immortal food *Iuppiter ambrosia satur est & nectare vivit. Mart. l 11. ep. 58.*

31 *Nectar and ambrosia made of many simples, whereof each month yeeldeth variety*

with those sweet and holesome vessels that do containe them, are gathered from infinite variety of herbs, flowrs, and trees, which God in his bounty hath ordained to succeed one an other. So that from *Pisces* to *Sagitt.* there never want some plantes or other containing these sweets: which the Bees featly draw from them without any hurt to the fruites: *Fructibus nullis nocetur.*

Nat. hist. lib 11. c. 8.

32 *Dandelion continueth longest.*

The dent-delion or after the french pronũciation dandelion may wel bee called *apiastrũ* or *mellissophyllon*. For the Bees gather vpon it almost al the yeere. The dazy and yelowcrea are next for cõtinuance, but nothing so much regarded.

33 *What Pisces yeeldeth.*

The winter giliflowre and the hazel are the first. For they spring in *Pisces* and sometime before. After them the dazy and the hearbe bearfoot, the violet, &c.

34 *What Aries*

In *Aries* besides those before named, the box, the withy-palme, both greene yeelding *Nectar*, and yelow yeelding *Ambrosia*, daffadil, lide-flowre, blackthorne, &c.

35 *Taurus.*

In *Taurus* flowtree, plumtree, goosebery not blowne, and blowne, cherrie, peare, cockbell, which is a wood flowre. About the middle of this month the chiefest plants begin to florish

in

in great abūdāce:as apple,crab,barbery,beech crowpickes, charlocke, rosemary, &c. But speciallie the plentifull Vetch, and Maple. They gather on the flower of the maple a whole month together, and somewhat on the flower of the vetch when his time is *v.* but the greatest store of hony is drawn out of the black spot of the litle picked leafe of the vetch,which groweth on each side the two or three vppermost ioints. These they ply continually:I never saw vetches,how farre soever from hiues, that for three months together (if the weather served)were not full of Bees. *v.n.* 37.

36 *Gemini.*

In *Gemini* with the forenamed,beans, which besides their flowers haue also blacke spotted leaues like vetches,on which sometime they gather,archangel,barbery,fumitorie,short plātanie,holme or hollie, hawthorne, red honysuckle,red weed,white honysuckle,which they like much better then the red. &c.

37 *Cancer.*

In *Cancer* with the forenamed,the blossome of the vetch,as wel as the leafe,benet,malows,the soveraigne time,which yeeldeth only *nectar:*& therefore he was deceiued that said *crura thymo plena.* time,for the time it lasteth, yeeldeth most and best hony:and therefore in old time was accounted chiefe(*Thymus aptissimus ad mellificium. Pastus gratissimus apibus thymum est. Dum Thymo pascentur apes dum rore cicadæ.*) *Himettus* in Greece,and *Hybla* in Sicile were so famous

Pl.nat.hist. l.11 c.ar. Arist. hist.l. 9.c.40. Virg.G.4.

famous for Bees and hony, because there grew such store of time (*Propter hoc Siculum mel fert palmam, quod ibi thymum bonum & frequens est.*) The rich knapweed & blackbery begin in the end of *Cancer.*

Varro l.3. c.16.

38 *Of honidewes.*

But the greatest plentie of the purest *nectar* commeth from aboue: which almightie God doth miraculously destill out of the aire (*aereis mellis cœlestia dona*) & hath appointed the *Oaks* among al the trees of the wood to receiue and keepe the same vpon his smooth and solide leaues, vntil either the Bees tong or the heate of the sunne haue drawne it away. When there is a honi-dew, you may perceiue by the Bees: for, as if they smelled it by the sweetnes of the aire, they presently issue out of their hiues, in great hast following one another: and refusing their old haunts search & seeke after the *Oaks*, which for that time shal haue more of their cõpany, then al the plants of the earth. Somtime the maple and hazell take part with the *oaks*, but very little and seldome. While the honi-dew lasteth, they are exceeding earnest plying their busines like mẽ in harvest: you may see them so thick at the hiues dore passing to and fro, that oftentimes they throw downe one another for hast.

Virg.

39 *The Bees worke most earnestly in a honidewe.*

40 *What the honydew is.*

What this *mel roscidum* shoulde bee, *Plini* seemeth much to doubt where he saith *Sine illud sit cœli sudor sine quadam sideruum salina*

Nat. hist. li. 11. c. 12.

might

sine purgantis se aeris succus. But if coniectures might be admitted, I would rather iudge it to be the very quintessence of all the sweetnesse of the earth (which at that time is most plentiful) drawne vp, as other dewes, in vapors into the third region of the aire by the exceeding and continuall heate of the sun; and there concret and condensated by the nightly cold into this most sweete and soveraigne *nectar*: and thē doth it descēd vnto the earth in a dew or smale drizling raine: that he might wel say, *Constat materiā, ex qua mel gignitur, rori esse congenerem.* Which opinion is the more probable, because that when the yeere is backward in his fruites, the honi-dewes are also backward, comming only at such time as the fruits haue the most solid and best iuyce. Before, when the iuyce is weake and watrish, and afterwarde, when it is dried and wasted, they are not. And this is the reason that in more hot & southernly climats, where the fruites are more forward, the hony-dews are more timely: as in *Italy* before *Gemini*, *Non omnino*, saith *Plinie*, *prius vergiliarum exortu v.* whereas with vs they fal not vsually before *Cancer*.

Gal. de alimenr. l. 3.

Nat hist lib 11. c. 12. *V. c. 10. p. 1. n. 21.*

41 *When the hony dews are most frequēt.*

The hoter and drier the sommer is, the greater and more frequent are the hony-dews: & as they are caused through heat, so are they at the last dissolved by cold: but much raine at any time, as comming from a higher regiō, vvasheth

sheth away that which is already elevated: so that there can be no more vntill an other fit of hot and dry weather.

42 *The time when they fall.*

The time in which these hony-dewes fall is vsually betweene the first and last daies of this month: although the cōtinuance of hote & dry weather may cause thē come somwhat rather, or last somwhat longer, even vntil mid. *Leo* or after. They may happen at any time of the day: but for the most part in the morning before it be light. *Sub lucanis temporibus. Itaq; tū prima aurora folia arborum melle roscida inveniū. tur.* And then shall you haue the Bees vp in a morning assone as they can see, making such a shril noise where they go, that a man may here them father then he can see them.

Nat. hist. li. 11. c. 12.

43 *Leo.*

In *Leo* vetches, malows, tyme, knapweede, blackberrie, white hony-suckle, redweed, thistle, &c.

44 *Virgo.*

In *Virgo* knapweed, blackberry, redweed, dandelion, malows, heath, &c.

45 *Libra.*

In *Libra* dandelion, heath, Ivy, &c.

46 *Scorpio.*

In *Scorpio* dandelion, Ivy, archangel, &c.

47 *The bees gather but of one kinde of of flowre in one voiage.*

And in this great variety this is strange, that where they begin they wil make an end, and notmeddle with any flowre of other sorte vntill they haue their load. *Mos apibus ne florum plura genera petant vno eodemq; profectu, sed singulis singula.* Insomuch that those which beginne with the flowre of the vetch wil not once touch the

Hist. an. l. 9. c. 40.

the rich ſpotted leafe of the ſame, before they haue beene at home. Although when they come to a flowre that yeeldeth both *Nectar* & *Ambroſia*, they wil vſe ſomtime the tongue, & ſomtime the fanges, and gather them both.

48 *They gather hony out of poiſon.*

But this may ſeeme more ſtrange and wonderful, that out of the moſt ſtinking and poyſonful weeds, as redweed,* marges, hēbane, & the like, they gather moſt ſweet and holeſome hony: and yet regard not the beſt and ſweeteſt hearbs and flowers, as the roſe, the prim-roſe, cloue-giliflowers, lavender, &c. wheat, barlie, peaſe, and ſuch like.

* Mathers or May-weed *Cotula fœtida.*

49 *What ſtore of hony a ſtall may haue.*

What ſtore of wax and hony a ſtall may gather, is vncertaine, ſome having more, ſome leſſe, according to the number of the Bees, the greatnes of the hiue, & the plentifulnes of the yeeres. With vs it is counted a good ſtall that yeeldeth two or three gawnes of poulſe: although in a tree there haue beene found more then 7. or 8. But in other northerne countries we read of farre greater quantities. *Plinie* affirmeth that there was ſeene in *Germany* a hony-comb 8. foot long. And *Paulus Iouius* that in *Moſcovia* there are found in the woods & wilderneſſes great lakes of hony, which the Bees haue forſaken, in the holow truncks of marvelous huge trees. In ſo much that hony & waxe are the moſt certaine commodities of that cōtry. Where, by that occaſion, he ſetteth dovvn

Nat. hiſt. li. 11. c. 14.

De legatione Moſcovitarum, & Munſterus de Moſcovia.

this story reported by *Demetrius* a *Moscovite* ambassador sent to Rome. A neighbor of mine (saith he) searching in the woods for hony slipt downe into a great holow tree, and there sunk into a lake of hony vp to the brest: where whē he had stucke fast two daies calling and crying out in vaine for helpe, because no bodie in the meane while came nigh that solitary place; at length when he was out of all hope of life, hee was strangly delivered by the means of a great beare: which comming thither about the same businesse that he did, and smelling the hony stirred with his striving, clambered vp to the top of the tree, & thence began to let himselfe downe backward into it. The man bethinking himselfe, and knowing that the worst was but death, which in that place he was sure of, beclipt the beare fast with both his hands about the loines, and withall made an outcry as lowd as he could. The beare being thus sodainely affrighted, what with the handling, & what with the noise, made vp again withal speed possible: the mā held, & the bear pulled, vntil with main force he had drawne *Dun out of the mire*: & thē, being let go, away he trots *more afeard thē hurt*, leaving the smeared swaine in a ioyful feare.

50 *Bees have necessary vse of water.*

The Bees earnest and hot labour, and the drought of the aire, togither with their cholerike complexion, which their very colour bewraieth, doth cause them much to desire cold

water

water. Some thinke it serveth chiefly to feede their schadons. *Aquam tum portant, cum prolem nutriunt*: and that not without reason, seeing that *Ambrosia* their daily food is hot and drie: and indeed when the drones are done away, and breeding is ended, the Bees are nothing so frequent at the watring-places. But *Columella* thinketh the vse thereof to be more general, *sine qua neq; favi, neq; mella, nec pulli denique figurari queunt.*

51 *Chiefly for their breeding.* Plin. an. L.9. c.40.

De re rust. l.9.c.5.

The watring-place should [a] not be far from your garden, [b] in the next side of a ponde or brooke [c] made shelving not steepe in maner of a foord, and [d] defended frō beasts, geese, ducks, and such like.

52 *The making of the watering place.*

[a] For they wil never go far for water, if any be to be had neere hand. *Sub mœnibus urbis aquantur.* And therefore whē you see Bees watring in woods, or other places not neere any hiues, be sure those are wilde Bees, which are not farre from their neast. Watch them therefore which way they flie: for they will thence directly to it. Which if it be not within view, take a reede or kex, or some like holow thing open at one end, with a chinke cut in the other to let in light: and taking vp a Bee by the wings put her into the cane, & shut her in with your thumbe: while shee goeth downe to the light, put in an other, and so as many as you thinke good. And then where you last see the Bees flying homward frē the water, go to that place, and there let out one of the Bees in the box: which, whē shee hath cast a ring to know where shee is, wil fly as directly home as the other: likewise where you see her last, let out an other: and so the rest, vntil they haue brought you to the stalle.

Virg. Geor.

53 *How to find wild Bees.*

[b] Lest the Bees flying over the water vnto it be throwne downe by tempestuous windes, & so drowned: for which cause it is good to lay lugs overthwart the water & other staies, that recovering them they may drie themselues a-gaine, and so escape.

Virg. Geor. *In medium seu stabit iners, seu profluet humor,*
Transversas salices & grandia conijce saxa,
Pontibus vt crebris possint consistere, & alas
Pandere ad æstiuum solem, si forte morantes
Sparserit, aut præceps Neptuno immerserit Eurus.

[c] That they may safely settle vpon it, and that it maie alwaies be kept moist by the neerenes of the water. For they choose rather to draw their drink out of moist earth then from the water it selfe, though it be never so clear: peradvēture that the earth having received his earthynes, which before was insensibly mixte with the water, their triple searching tongue might the better trie out the pure element of water.

[d] Which otherwise wilbe the death of many: for they are so earnest in their businesse, that though you offer to tread vpon them, they will not moue.

54 *The fashion of a watring trough.*

For want of such a vvatring-place make a shelving trough, and set it in your garden the space of a pearch or two from the stals. And having filled it with water, lay a piece of a thinne bord or lath in the middle of it vpon the water, to saue them from drowning, if any happen to fal in. When the trough is old & the sides earthy they like it best.

Of a planke or other piece of timber 3. foot long, 13. inches broad, and 3. inches thicke you may make a double trough with a partitiō. The length of the concavities let be two foote, the breadth of each 4 inches, the depth at the partition

tition 2.inches,from whēce each bottom must ascend shelving by little and litle vnto the out sides.So that there may be least vncut at each end six inches,at each side 2. inches,and in the middle for the partition one.

If you haue no such certaine watring-place, they must spēd more time in seeking farther: & in rainy wether they will ly about the neer plashes & puddles in the streets, where they are ofttimes trod vnder feet of men and beasts.

55 *After a showre they water at home.*

After a showre they water for the most part in your garden vpon the bare earth,the grasse, and wheresoever they finde it wet from aboue. In the chiefe breeding months *Aries* and *Taurus*, when the colde raine or winde hath kept thē in some part of the day,they will lie so thick vpon the grounde,if you haue any store, that you can scarce tread beside them.At such time therefore let no heedles stranger come among them.

Of the Bees enimies.

CHAP. 7.

1 *The Bees enimies are many.*

THe good Bee, as other good things, hath many enimies, frō which ſhe needeth your help to defend her: namely, 1. the mouſe, 2. the woodpecker, 3. the titmouſe, 4. the ſwalow, 5. the hornet, 6. the waſpe, 7. the moth, 8. the ſnaile, 9. the emet 10. the ſpider, 11. the toade, 12. the frogge, 13. the Bee, and 14. the weather.

2 *1 The mouſe*

The mouſe, whether he be of the field or of the houſe, is a dangerous enimy. For if he get into a hiue he makes havocke of the hony, and ſo ſtarues the Bees. Some enter by the dore, or by ſome open place in the skirtes of the hiue: ſome gnaw a hoale through in the toppe of the hiue, where they know the hony lieth. Some keepe their old homes, and come to the hiue only for their baits: ſome make their neaſts betweene the hacle and the hiue, that they maie the ſooner and the ſafer come to the hony at their pleaſure.

3 *How to know whē a mouſe is in the hiue.*

When a mouſe is in the hiue, if it be in the day-time, you may know by the Bees: for they

will

wil sodainly flie forth, as when they swarme, & that so eagerly and angerly, that you may easily know they doe not play, as sometime they vse to do, *v.* when they are wel pleased: neither wil they cease flying about, vntil he be gone. But for the most part they steale in the night, when the Bees will not stirre. *V.c 1.n. 57.*

4 *Remedies against the mouse.*

For remedy, first you must looke that your hiues, whether they be of straw or wicker, be close and fast wrought. For if the strawe bee loose and soft, they vvill more easily gnawe their way through: & if the wicker be thinne, when they haue torne down the cloome, they wil creepe in betweene the twigges. Next see that the hiues bee davvbed close round about the skirtes, that there bee no entring but by the dore: vvhich in the ende of *Taurus*, when the Bees come dovvne to vvatch, and thenceforth all the sommer, they wil keep wel enough both day and night: but in the winter, at which time the mise make most spoile, it must bee made so narrovv, that they cannot get in. *v.* Also it behooveth you to remoove all thinges about your hiues, that may hide and harbor them: for they vvill feare to come and goe in sight, lest the cat meete vvith them by the vvaie. Moreover it is good now and then, in drie and vvarme daies to take of the hacles, as vvell to meete vvith the mise, as to ayre the moist hiues, and to kill mothes,

1

2 *V.c.3.n. 24 & 26.*

3

4

mothes, and ſpiders, and the like. Thoſe miſ that neaſtle vpon the top of the hiue, when the hacle is takē of, wil ſit ſtil amazed ſo long, that you may be ſure to cruſh them againſt the hiue with your hand. 5 Laſtly you ſhal doe wel to ſet baited traps in their waie, that ſo they may come ſhort.

5 2. The wood-pecker

The wood-pecker or yippingale, if hee find any hoale in the hiue againſt the hony, doth with his long round tonge draw it out: but hee doth more harme to wood-bees then garden-bees.

6 3. The Titmouſe.

Of Titmiſe there are three ſorts. The great Titmouſe is a very harmful bird. For although ſometime he ſeem contented with dead Bees, yet is he a great devourer of the quick alſo. In winter he taketh them at the hiue, as they come forth: and in very cold weather when they are loath to ſtir, he wil ſtand at the dore, & there never leaue knocking til one come to ſee who is there: and then ſodainely catching her away he flies with her: and when he hath eaten her, he comes againe for more: eight or nine will ſcarce ſerue his turne at once. But in the ſpring when the Bees come to the palme, he ſtandeth there watching for them, and while they are buſie at their worke he devoureth many. The little ruſſet one in the winter feedeth onely on dead Bees; but in the ſpring hee wil take part with the great one. The little greene Titmouſe

I cannot accuse.

The swallow taketh them as they fly, *populatur hirundo*, & alibi *ea demum sola avium non nisi in volatu pascitur*. But I am perswaded she doth much lesse harme then the Titmouse, although she haue a worse name. These birds therefore are not to be suffered.

Nat hist. l. 11. c. 18.

Nat. hist. l. 10. c. 24.

7

4. *The swallow.*

...Absint meropesq; aliaq; volucres,
Et manibus Progne pectus signata cruentis.

8

Remedy against the titmouse and swallow.

Let boies destroie their neasts in sommer, & kill the old ons in winter with traps and pitfals baited with oats or tallow. *Aristotle* ioineth the waspe, the little titmouse, the swallow, and the great titmouse together. *Inferunt iniuriam apibus maximè vespa, & avicula quas paros vocant, atq; etiam hirundo, & merops qui apiaster est. Quamobrem apiarij vesparum latibula & hirundinum ac meropum nidos propinquos alueis tollũt.*

Hist. l. 9. c. 40

9

5 *The hornet*

The hornet also devoureth Bees, being so much to strong for them, that they can make no resistance; which the Poet meant where he said *aut asper crabro imparibus se immiscuit armis*. Hir manner is to fly about before the hiue, til she haue spied hir pray settled at the dore, and then sodainely she taketh it in hir feet, and flieth away with it as a kite with a chicke.

10

The hornets sting is dangerous.

In destroying the hornets you must be wary: for one stinging doth ofttimes cause an ague: and lesse then thirtie, as some say, will kill a man. *Ictus crabronum haud temerè sine febri est.*

Nat. hist. l. 11. c. 21.

An

Auctores sunt ter nouenis punctis interfici hominem.

11 *The waspe*

The waspe doth much more hurt then the hornet: for the hornet now and then killeth a Bee, but the waspe wasteth the hony, whereby many whole stalles doe perish. For besides the harme that shee doth hir selfe, shee doth oftimes set the robber on worke, who, when the waspe hath begun, will be ready to take part with her, add then all goes to wrack. A waspe is by nature harder and stronger then a Bee, specially in *Libra*: insomuch that oftimes shee breaketh from two or three of them, though they haue all hold of her at once: and perhaps killeth one of them out of hand. About *Cancer* shee beginneth to bee bred: *v.* about *Leo*, and the spring being hot and dry somewhat rather, shee first appeareth: and in a while she beginneth to feed vpon dead & weake Bees, which she quickly cutting of in the middle with hir fanges, first carrieth away the neather part, and anon fetcheth the rest, when she hath bitten of the winges for easier carriage not far from the place where she took it vp. About *Virgo* she waxeth bold, and adventureth into the hiues for hony: but by reason of the strangnesse of hir voice and habit, she is discried before she come neere: and at the first (while the weather is warme, & the Bees both early and late keepe watch and ward at the hiue.

v.c.4.n.8.

12 *The wasp at first feedeth vpon dead Bees.*

13 *At Virgo she stealeth hony*

hiue-dore) comming single against many she is commonly beaten back: and if by chance she slip in, she doth not alwaies escape, sometime she is slaine in the hiue & brought forth dead; and sometimes she is killed without dores, whē she hath got hir pray. But afterward, the weather waxing cold, and specially in mornings & evenings, and the Bees therefore retiring from the dore higher into the hiue, the waspes make great spoile among them. And this they continue vntil *Scorpio*: after which time they begin to ware. Nevertheles while they liue, that is vntil *Sagit*, if abundance of cold and wet rid thē not a little rather, they wilbe filching: & one waspe vvill carrie out as much as two Bees bring in. In a wet sommer (because they breed for the most part in the ground) much raine rotteth their combes, and chilleth their yong, and so spilleth the increase of them, that your Bees shall not be much troubled with them that yeere. But the sōmer being dry they grow very rife: and if many dry sommers come together, there wilbe such multitudes of them in every place, that, without continnal and diligent attendance, you shal be sure of great losse among your Bees by them.

14 *How long the waspes last.*

15 *In whas yeer the waspes are most rife.*

16 *Remedies against the waspes.*

Wherefore if you loue your Bees, suffer not a wasps neasts about you. The readiest way to rid them is, if they be in the ground, to scalde thē; if in a tree or other place, where they build

aboue the hoale, so that you cannot scald thē, then smother them with brimstone, as you kil Bees. And to destroy those that are acquainted with your hiues, set by thē sider, vertioice, sowre drinke, meth, or hony-water in a viol open, or other glasse covered with a paper that hath a hoale in the middle: & so you shall take many: and if the meth or honi-water doe now and then drowne a Bee with them, pitty them not, for they are theeues. *Aristotle* teacheth you an other way. *Impugnantur* (saith hee) *apes à vespis: quamobrem apiarij eas venantur constitutâ ollâ, & carne in ea positâ. Vbi enim multæ ad carnem accesserint, apposito operculo super ignem ollā ponūt.* You may also vse other meanes to kil thē your selfe. How to helpe and defend your Bees against them, see *c.3.n.36,37.38,& 39.*

Hist. li.9.c. 40.

17 7. The moth.

The flying moth lyeth betweene the hacle and the hiue, and breedeth little wormes, or crawling mothes, some in the skirts of the hiue, some within vpon the stoole, and some without vpon the hiue, specially in the crackes of the dawbed hiues. *Plinie* speaketh thus of thē. *Papilio etiam ignavus luminibus accensis advolitās pestifer, nec vno modo: nam & ipse ceras depascit, & relinquit excrementa quibus teredines gignuntur.*

Nat. hist. li. 11.c. 19.

18 8. The snaile

They offēd the Bees also with their mealines, as the snailes do with their slimines. Wherfore rid your hiues of these guests, and specially of the snailes: which wil not long abide, if there be no

har-

harbor of long grasse, weeds, or other thing about the hiues.

19

If emets breed neere your Bees, they will much trouble them, biting them, and hanging vpon them: although the Bees if they be lustie, will kil many of them that come to the hiue. But if it bee a poore stale, they wil in time possesse the hiue and eate vp the hony. The best remedy against them is to scald them. 9. *The emet.*

20

The spider, as the moth, doth vse to harbour betweene the hacle and the hiue, where commonly she hath a Bee or twaine in store to feed on, an vnfit messe for such a mouth: Sometime she hangeth hir nets vnder the stoole, which easily intangle a wearie Bee, when she commeth laden home, and missing of the lighting-place falleth into them: yea & sometime where the Bees are few, chiefly in the winter, they wil be bold to enter the hiue, & there weaue their cruell webbes. *In foribus laxos suspendit aranea casses*, and then are they very dangerous. *Aranei quoq; vel maximè hostiles: cum prævaluere vt intexant, enecant alveos.* 10 *The spider.* Virg. Nat hist. l. 11. c. 19.

21

The toad is by nature so noisom to the Bees, that while he is about the hiue, though hee lye but vnder the stoole, the Bees will not prosper. 11. *The toad.*

22

He is said also to devoure them at the hiue, as the frogge at the watring-place. *Rana apes, vbi ad aquam accesserint, rapiunt: quamobrem eas apiari per paludes & stagna vnde apes aquantur venari* 12 *The frog.* Hist an l. 9. c. 40

Ibidem. *ri solent. Rubeta etiam apes interimit: subiens enim adstus alvei afflat, & observans rapit evolantes. Nullo hæc affici malo ab apibus potest, sed ab apiaris facilè interimitur.* Item *insidiantur aquantibus ranæ: quæ maxima earum est operatio, tum cum sobolē faciunt.* v. *Nec hæ tantū quæ stagna rivosq; obsident, verum et rubetæ veniunt vltro, adrepentesq; foribus per eas sufflant: ad hoc provolant, confestimq; abripiuntur.*

Nat hist. li. 11 c. 18.

V. c. 6. n. 51.

23 13. *The Bee the Bees greatest enimie.*

But not any one of these, nor al these togither doe halfe so much harme to the Bees, as the Bees. *Apes api, as homo homini, lupus.* They make the greatest spoile both of Bees & hony. For as they of the same hiue liue in inviolable peace one with an other; so haue they no entercourse, no friendship or society with others, but are rather at perpetual defiance, & deadlie feud with them. In fight they are fierce, and in victory mercilesse: within the space of a day, or twaine, yea of 3. or 4. howres sometime, if the hiue be open that they may haue easie passage to and fro, they wil haue rid him cleane. And therefore all Bees of all their enimies do most feare strange Bees, knowing well in what danger they are to bee robbed by them both of goods and life. This robbing is practised all the yeere. In winter, as oft as the weather is faire & warme, some wilbe prowling abroad And some are so theevishly disposed, that all the sommer long, when abundance of hony is every where

24 *Robbing or fighting of Bees in winter & sommer but little.*

to

to be had for a little labour, they will yet be filching though they dy for it. At the spring, specially in *Aries*, they are more earnest: and therfore you must then haue an eie vnto them. Those stalles that haue lost their Queene, or doe dislike their standing for coldnesse, moistnes, mustines, bleetnesse, or vnsauorinesse, as taking no pleasure in their liues, doe easily suffer themselues to be robbed in the spring. And if none wil come to rob them, thē on some faire daie they wil away together, sometime leauing both hony and yong ones behind them. But in *Virgo* is the most dangerous time of all. Then shall all the stalles in your garden bee tried, whether they be such as will yeeld or no. And *Libra* would not be much better, but that the most spoil is dōe before. Little & poor swarms are much subiect to robbing: likwise those Bees that are offended with the blacknesse and rottennesse of their combes, caused through age or wet, or with abūdance of noisome stopping; wil most of them goe forth in the swarmes, leaving a very few, sometime not past a handful in the stocke: which yet in robbing-time wil keep the dore, as though the hiue were full; but the robbers finding their weaknes wil surely spoile them, if they be not prevented. How to knowe such Bees, & what to do to them, see c.3.n.43.

25 *In the spring more earnest.*

26 *The most spoil is made in Virgo.*

27 *What stals are most subiect to robbing.*

28 *The robbers are the lustiest stalles.*

The robbers are thought to be poore swarms and stockes, which haue not sufficiently provi-

ded themselues for winter: of which opinion was *Plini* where he said. *Quod si defecerit alicuius alues cibus, impetum in proximas faciunt rapinæ proposito.* but indeed such are fitter to be robbed, as before is said, then to be robbers. There is no thiefe to the rich thiefe: who although he haue enough and more then enough, yet by hooke or by crooke he will haue more, though the poore starue for it.

Nat hist. l. 11, c. 17.

29 How they begin the fray

At the beginning of *Virgo* the fat and full stalles doe send forth some of their stoutest yōkers to spie and giue the onset: vvhich going about from hiue to hiue so far as their walke extendeth, doe proue al. Where they haue once sped, at their returne they bring more of their company, vntil in the end that whole stall bee made acquainted with it. Sometime it happēneth that though there be an hundred stalles within a walke, yet the robbery is done altogether by one, sometime by two or three, al the rest being quiet. And this one thing is strange, that whereas no Bees wil abide strangers in their hiues with them, yet theeues wil suffer on another & agree altogether in stealing, though they be of divers hiues.

30 Theeues of diuers hiues agree together in robbing

31 The description of the Bees battel.

When the theeues hauing first made an entrie begin to come thicke, and the true Bees perceiue themselues to be assaulted by many, they suddainely make an outcrie: and issuing out of their holds by troopes presently prepare them-

them selues to battaile. Some keepe the gates: some as skoutwarches fly about: some runne in againe to see what is done there: some begin to bussel with the enimie: and that with such a noise and dinne, as if the drum did sound an alarme. Besides which base sound you shal eftsoones, in the heate of the battaile, heare a more shril and sharpe note, as it were of a flute,

----& vox
Auditur fractos sonitus imitata tubarum.

32 In the battaile is heard a sound like a drum and a flute.

Which I am out of doubt is tuned by their generall commander, encouraging them to fight for their Prince, their liues, and their goods. Then shal you see the enimies bestirre themselues most venterously: some violētly through the thickest thrusting in at the gates, others scaling the wals, and teareing them downe. If they once make a breach, without present succor, you shal quickly haue an end of that fight. One the other side, the defendants wil behaue themselues as brauely, not giuing any rest to the enimie: part encountring with them that are without, part with them that haue broken in: whome in a while they drawe out by the heeles, some dead and some aliue. Likewise without you may see some slaine forthright with the thrust of the speare: some so deadly wounded, that they are not able to goe three foot from the place: & some more lightly stroken, presently to loose the vse of their wings, &

33 The assaults of the enimy

34 The defence of the besieged.

for a while to leap vp and downe, forward and backward, like mad things.

How long they liue after they are hurt see c. 1. n. 21.

35 *Neither side willing to yeeld.*

So loath are these courageous warriers to yeeld on either side, vntil there be no remedie.

Ingentes animos angusto in pectore versant
Vsq; adeo obnixi non cedere, dum gravis aut hos,
Aut hos versa fugâ victor dare terga coegit.

In their fight they are so furious sometime, and so thick about the garden, that vnles you haue on your cõplet harnes, *v.* you may not dare to come nigh them. *v.c.1.n.38.*

36 *The exercise of the defendants when the enimy retireth.*

This also I haue noted, that when the robbers are so few, that smal resistãce wil serue, yet being called forth they wil not be idle: for you shall see some of them running vp and downe about the haue, to seeke and search if any more come: others like trained souldiers, practising to fight, here one wrestling with another in single cõbat, there 2 or 3 or 4 setting against one, as their vsual maner is to deal with the theeus. If you would knowe whether this fight bee in iest or earnest, with fellowes or with foes, the maner and the end thereof will shew you. For if they be fellows, their fight is not so fierce, & they wil part quietly as friends: whereas if they bee foes, though they scape, it shall bee with much adoe. For if the true men cannot kill the theeues, yet wil they hold them by the legges

or by the winges so long as they can, in hope to haue help, though they be drawne after. Moreover the yong souldiers which haue scarce bin abroad before, you shal see the elder sort goe rounde about them, smoothing and trimming thē in every place, as if they did addresse, and hearten them to fight.

37 *The waspes like vultures.*

During the time of this battail, as afterward, the waspes like vultures pray vpon the dead carcases, carrying them away peece-meale. *v.*

v.n.12.

38 *The battaile ended they bury their dead.*

The battaile being ended by repulse of the enimie, those corpses, which the waspes haue leaft, they honestly bury as far from the hiues as they can beare them.

---Tum corpora luce carentum
Exportant tellui, & tristia funera ducunt.

Vrg.

And then they draw together at the city-gates and there they buze one to an other, as if in their language they did talke of the fight, and commend one an other for their fortitude.

39 *The second assault of the enimy.*

The robbers, prevailing not that day, wil vp the next day so soone as it is light, an howre before the Bees vse to come abroad: & thē doe they make a fresh assault. The Bees finding the enimie among them, are presently vp in armes: and so beginnes the seconde skirmish, vvhich, vvithout the taking of the citty or the overthrow of the assailāts (which seldome hapneth) continueth, vntil very darknes part them.

When the true Bees finding themselues o-

40 *When the true Bees yeeld, they go with the cõquerors.*

vermacht with multitude, see there is no rẽmedie, and that no resistance wil serue; at length they yeeld, and suffer the conquerours quietlie to spoile their goods. And after a while, when, by being togither in the same hiue and sucking the same hony, al smel alike; they wil ioine with their enimies, and help cary away their owne goods, and so become friends & liue togither. At night they lodge with them: but in the daytime they returne with their newe fellowes to fetch that is leaft behinde. And when they haue done, it is marvaile but, being encouraged by this victory, they set vpon some other ſtall neer adioining: and so is your whole garden in danger.

41 *Remedies.*

Seeing therefore in so cruel and continuing a fight ofttimes the enimies are conquerours, and then al is lost; and if they be vanquisht, yet this victory is not without losse of men and goods, which the enimy ever nowe and then shifteth away: I knowe your desire is to knowe how to succour the true men, either by preventing this dangerous conflict, or by rescuing thẽ in the same. For the first read *c.* 3. *n.* 36, 37, 38, & 39. For the other many practises haue been tried: some cast dust, some drinke, among thẽ: the one wherof doth no good, the other harm. For drink maketh them to smel al alike, so that the true men cannot knowe the theeues from their fellowes: and therefore some vse to do so, when

42 *To prevent robbing.*

43 *And so stay it if you find it in time.*

when two ſwarmes are put togither, that they may ſeeme to be of one company. If theſe vſual helps be no helps, what helpe is there then? If you perceiue their fighting in time before any great harme be done, thē this muſt you do. Firſt ſtop them vp cloſe that none can paſſe either in or out, leaving only a breathing place. Then ſhal you haue a double cōflict, one within, an other without. The theeues that are within, having no way to eſcape with their prayes, firſt or laſt vvil be ſlaine al. They that are without, after a little wreſtling, ſeeing nothing to be had but blows, vvil not long abide this bootles danger. When you perceiue the ſiege to be raiſed, and that there is litle or no fighting without (which wil be about an howre after) then may you let out your Bees, making the dore half an inch high, & ſcarce half an inch wide. Thoſe fewe that were within will they bring forth to burial, ſome then, ſome on the morrow. In the evening, when the Bees are al in, ſhut them vp as before. The next day betimes, before the Bees would bee abroad, muſt you looke for ſome of them againe. Whē they are come, beat them away with a bough, but kil them not: for ſo may you do your neighbor a ſhrewd turne, and your ſelfe too.

But let not the Bees out before noone: and then make the dore ſo narrow, that but one Bee may paſſe at once. So will the Bees keepe the

robbers out, and followe their busines nevertheless. The nexte day you may let them out rather: and if the dore be so narrow that it hinder their passage, you may make it wider. If this do not suffice, but stil the strange Bees wil striue to get in; assure your selfe that stall hath but few Bees, and is not in case to be kept. And therefore if you be loth to take it now, because of the schadons that may corrupt the honie, then must you looke vnto him carefully, least by little and little it come to little or nothing.

44 *When it is too late, and what is then to be done.*

But if the Bees haue yeelded before you are aware of it, so that the theeues rob quietly without resistance; or the stall be much spoiled and the hony-cels brokē (which you may perceiue by the crumbs of waxe vpon the stoole) thē having shut the hiue close assone as you can, the next evening or morning take that is least: otherwise in the end you shal loose all. For the Bees thereabout smelling the hony when the combs are broken, wil haue it or die for it.

This fierce and cruell robbing being alwaies in harvest, when people are busie in the fields, many hiues are leaft honylesse, and they never the wiser. Wherefore it is good to leaue some body at home, as wel to watch these as the two legged robbers.

45 *In what yeeres robbing is most rife.*

After a moist spring when swarmes are most plētiful, *v.* is robbing most rife: otherwise there is lesse danger.

V.c. 5.n.5.

Be-

Besides those Bees that are thus spoyled in robbing, many also are killed by other stalles when they come to them for succour. For in the spring those swarmes that were lateward, or haue beene halfe robbed, when they haue spent al their store, the next warme day after away they fly: some to a tree where they hang til they be deade, some adventure into other hiues, where if they haue large entrance, that they may throng in sodainly, sometime they scape with the death of some few, and being mingled togither continue with them as one stal: but for the most part they die every each one, *v.*

46 *Bees kill poore swarms that wander in the spring*

V.c.1.n.20.

To prevent this losse, (1) when you perceiue them to wax light and weake, driue them into a stalle that hath provision enough, *v.* (2) If it be your happe to see them entring a stal that is wel stored, lift vp the hiue and let them in togither: and (3) if you finde any hanging abroad, you may put them into what stal you list. By rearing the stal before a handful frō the stoole, and laying the Bees vpon the table, *v.* close to the dore.

47 *To prevent the death of poore swarms*

V.c. 10. par. 1.n.20.

V.c. 10. par. 1.n.9.

Next vnto Bees the greatest enimy that the Bees haue is vnkinde weather: whereby at all times of the yeere both they and their fruits are much empaired.

48 14 *The weather.*

In sommer extreame heate melteth the combes specially of swarmes, and so sheddeth the

49 *In sommer heat burteth the Bees.*

the hony, if the hiues be not shaded, and vvel hacled. It also causeth the Bees to lie out, and so hindereth their swarming, *v.*

v.c.5.n.19.

50 *In winter the sun shine in frost & snow*

At winter, the sun shining in frosty or snowie weather is dangerous to the Bees. For the sun tilleth them abroad, and the frost chilleth thē: many as they fly, that they cannot returne: and many that return, while they rest on the groūd before the hiue: but the snow amazeth thē, & causeth them presently to fall & rise no more.

51 *Also the easterne winds and great frosts*

Also the freezing Easterne windes, & all great frosts kil many in the hiues that be open, or vncovered: and therefore at such times it is good to shut them vp close, *v.* and to see them vvell hacled, *v.c.3.n.16.*

v.c.3.n.53.

52 *And the cold continued maketh thē sicke.*

And if the cold continuing keep them long in, it maketh them so sicke, heavy, and chillie; that many die assone as they come abroad into the aire, vnlesse it be very pleasant, *v.c.3.n.53.*

53 *The raine rotteth the hiues.*

Also the raine doth oftimes soake into the hiues and so corrupteth the combs and killeth the Bees: specially where the company is smal, not hauing heat enough to drie them againe.

54 *The remedy.*

Wherefore provide that alwaies your hacles be good. And for remedie (if any such chance happen) pul of the hacles in warme daies, that the sun may dry them: and in the 3 dead months *Sagit. Capr. & Aquar.* because the sun is then of smale force, drie the vvicker hiues vvith fire of straw: but then you must be sure they be

close

close, lest the Bees moued vvith the heat come forth and either fry or freeze.

55 *The greatest losse by weather is in the spring: for then infinit multitudes are beaten downe laden and wearie with storme and winde.*

But the greatest losse is in the spring. For the Bees, specially the yong frie, being laded and wearie vvith their labour, some at their vvorke, some in the vway home, some at the hiue-dore are beaten downe, not only through soddaine stormes; but also through cold rough vvindes: and then vnlesse the sun shine, or the wind ly, they never come home againe: insomuch that sometime you may see the lanes *v.* strewed vvith them.

v.c.1 n.47.

56 *At the rising of a cloud they post hõe*

And therefore, vvhen being a field they see a stormie or rainy clowd arising, presently they high them home for life: tumbling to the hiue as thick as haile, thrunging, & throwing down one another before the dore for hast. Where if the cold raine catch them before they can recouer the hiue, they are in no better case then those that the storme beat dovvn by the way: although when they are fresh and light, they vvil fly abroad in the midst of a warm shower, not caring for it.

57 *Yet wil they goe afield in the midst of a warme shower.*

They which are thus taken abroad must take their chance: but if you defend your Bee-garden as you ought, *v.* you shall prevent the fall of many at home. And those that you find chilled with cold, though they be quite dead, without sense, motion, and breth, yea and haue laien so al the day; you may if you be disposed

v.c.2.n.2. 4.& 5.

58 *How to restore Bees to life.*

revive with the warmth of your hand, so that it will seeme a miracle vnto you. For presently (their spirit returning) you shal see them begin to pant and breath againe, and anone they will fly away as lustie as the best.

59 *The wind cousth many to be drowned.*

Also where palme-withies, or other trees whereon they gather, do hang over the waters; the rough windes throwe downe and drowne a number of them. Wherefore if you haue any such trees, in any wise let them not stand.

Nat hist li. 11. c. 19.

Tot hostibus tot casibus tam munificum animal expositum est.

Of the remouing of Bees.

CHAP. 8.

1 *Remoue Bees in a faire day*

REmoue your Bees alwaies in a faire day, and as neer as you cã gesse in setled weather. For when they are moued to another place, if it be within their circuit or walke, they will fly to their old stãding as soon as they are let goe, and hanker about it sometime six or seauen daies: where if the cold wet catch them, many loose their liues. And if you remoue them out of their knowledge, then, as amazed in an vncouth place, they fly about for a while viewing the country, and searching for their old home: when they are weary, they rest wheresoever: and if foule weather come vpon them, they are in like danger.

2 *Not in sommer*

It is not good to remoue Bees in sommer, for letting their work in the chiefest hony-gathering.

3 *Not in winter.*

And it is worse in winter, for loosing the Bees. For if fowle weather fall not, the very stil cold wil kil many, while they are straying aroad: and of those that returne, being not yet

acquainted with the hiue-dore, some will fal short, some vpō the hiue: where, while they rest panting, the cold chilleth them.

4 *The fittest time is in the autumne & spring.*

The fittest time is either in *Libra* & the fore part of *Scorpio*, that they may throughly know their new standing before the weather be too cold; or in *Aries* & the later part of *Pisces*, that they may bee acquainted with it before any great gathering of hony.

Nevertheleſſe if you haue Bees in other mēs keeping, whose care and skil you mistrust, you were better to remoue them in sommer before *Virgo* for feare of robbing; or in winter for feare of mise & other evils, then to hazard al by their ignorance and negligence.

5 *Libra the best month in all the yeare.*

But if you may choose, remoue in *Libra* only, which is simply the best.

6 *The time of the day and manner of removing.*

In the evening, when you meane to remoue, an howre before sunset prop vp the hiue from the stoole with three bolsters two or three inches thicke, that the Bees may ascend from the stoole: about halfe an howre after, having prepared an other stoole of the same highth & of sufficient breadth, and having covered it with your mantle so that the middle of the mantle be over the middle of the stoole; moue the stall with his stoole, if you may, a little aside; and set this covered stoole in his place: or if it cannot wel be moved, thē set the covered stoole close to the old stoole ether beside it, or before it.

This

This done, lift vp the ſtal from his old ſtoole & ſet it vpon the new: and then wiping the Bees from the old ſtoole (if any remaine) with your bruſh, ether take the ſtoole away, or cover it with a cloath: and then if your new ſtoole be only a planke without legs borne vp by ſome other meanes, it is good to ſet it vpon the old. Within a while when the Bees are all in, knit the mantle at the fowre corners over the top of the hiue ſo as the knots may not ſlip, and preſently binde it to the hiue about the middle ſlackly with a ſmal line, and wreſt it faſt with a little ſticke. And ſo is the ſtall ready to be removed.

7 *The vſuall manner of remouing.*

They vſe commonly to make no more ado, but after ſunſet when the Bees are at reſt to lift vp the ſtal and ſet it vpon a mantle ſpreade on the ground, and ſo to binde them vp, leaving the Bees vpon the ſtoole (which in a good ſtall are not a few) behinde them. Which way, for ſuch ſtals as haue al their Bees vp in the hiue, may ſerue wel enough.

8 *Which is fit for poore ſtallers.*

9 *How good ſtall is to be carried.*

The beſt way to carry your ſtal is vpon a cowl-ſtaffe betweene two, and rather with the top downward then vpward. If it be light, one may carry it in his hand. But howſoeuer, be ſure it hang perpendicularly for feare of breaking the combs, ſpecially if you chance to remoue before *Libra*, when the waxe is ſoft and the lower partes of the combs are heavy with

10 *How a bad.*

yong

11 *What to doe when they are brought home*

12 *And what when they are lested.*

V.c.5.n.58.

yong Bees.

When you haue brought the stal home, you may let it stande bound, as it is, al night in the house. The morrow, whē the wether serveth, v. set him on his seat: and then having loosed the line, & taken away the mantle, cloome him vp presently, leaving for three or fowre daies a very narrow entrance for feare of robbing. For their new neighbours wil try what mettle they are made of: and they wil not so stoutly resist, vntil they be acquainted in the place.

Of

Of the feeding of Bees.

CHAP. 9.

1 *What Bees are to be fe*

Lackberie-ſwarmes, which by reaſō of their latwardneſſe haue not gathered proviſion enough to bring about the yeere, with third & fourth ſwarmes, if anie be, which are ſmale and weake, and others alſo which through your negligence the robbers haue leaſt in the ſame caſe, muſt haue ſōe help at your hands if you mean to keep them. As for ſtockes that haue not gotten ſufficient ſtockes, or being once gotten, haue loſt them againe; there is no hope that they will thriue, & therefore take no paines about them.

2 *When they ceaſe to lay vp in ſtore.*

At *Virgo* the Bees ceaſe to lay vp hony: yet all that month they vvaſt not their ſtore, vnles they be robbed, but liue of their daily labour from hand to mouth. In *Libra* likewiſe they ſpend little or nothing.

3 *When and how lōg they ſpend on the ſtock.*

But in *Scorpio* & *Piſces* their gathering is little in the three months betweene thē nothing at all. In *Aries* & *Taurus* the plants yeeld thē more plentie of food of both ſorts: but then

they haue more companie to ſpend it, and vnkind weather oftentimes ſuffereth them not to goe forth for it. So that all this vvhile they liue vpon the ſtocke: yea the weaker ſtals ſomewhat longer, as being not ſo vvel able to abide the cold aire. And therefore for vvant of ſome ſtore to feed on between whiles at home, I haue knowne ſome die after mid-*gemini*.

*Wet, cold and windy.

4 *Some are ſtored for a longer time, ſome for a leſſe.*

Of which ſeauen months ſome haue proviſion only for ſix; ſome but for foure or fiue: and ſome alſo not for ſo long a time: vvhich you may well ioine vvith the vnthriftie ſtockes. *v.* for they are not worth the feeding.

v.n.1.

5 *The vſual time of feeding.*

VVhen men perceiue by the lightneſſe of the hiues that they wax leere and honiles, they begin to feed, ſome about *Piſces*, ſome ſooner, ſome later; giuing to each one everie morning, before other Bees are abroad, a ſpoonful of hony: and ſo they continue vntil *Gemini*, if the vveather be then warme; otherwiſe ſomewhat longer, vvithout intermiſſion. For the Bees will duly looke for it, and languiſh if they lacke it.

6 *The vſual maner of feeding.*

Some giue it them in a ſpoone: but that way many of them beſmeare their wings, & if their fellowes licke them not cleane preſently before the cold chill them, they die. Others, to auoid this incõuenience, giue it them in a toſt, vvhich being warme drinketh in the hony, vvhence they draw it out vvith their tonges: but this vvaie waſteth hony, and doth not al-

to-

together avoid the former inconvenience. Others haue other deuises: but indeed the only good waie is to giue it thē in a peec of acomb. *v.* *v.n.19.*
If you vse to knock the hiue, when you put in the hony; they wil come down as duly as sheep to a cal, when they are to be fodered.

7 *This late feeding oftē fayleth.*

This feeding of Bees is altogether condemned by some as paineful and fruitlesse, saying if you feed them not, they can but die: and so wil they doe when you haue bestowed your labour and cost. Indeed many of them, that are thus fed, do, miscarrie: but if the hony be good, and duely giuen them before their store be al spent, for the most part they liue: the sommer following they provide sufficiently for winter; & the next they are likely to swarme and grow fat.

8 *Yet is may saue such as haue some store.*

9 *How to saue those that haue no store in the spring*

But if any of your stalles, at any time in the spring, be so neere driuen that they haue spent all (which you may know by their lightnesse and lothnesse to come abroad, when others are busie) then because feeding in such a case doth seldome say, if you will saue their liues, driue them into a stall that is fat, and they wil agree and cast the sooner: the manner of driving see *c.10.part.1.n.20.*

10 *How to feed Bees without hony.*

For want of hony many other things haue beene vsed insteed thereof. *Aristotle* mentioneth figges, and all such sweet things. *Apiarij ficus ac reliqua id genus dulcia in cibum apponunt.* Hist.li 9.c. 40.
and *Plin* speaking more particularly commen-

deth raisings, and figges, and teased wooll wet with meth, or honi-water, or sweete wine made of raisings, or new wine boiled. *Si cibus deesse censeatur apibus, vuas passas siccasue, ficosq; tusas ad fores earum posuisse conueniet: item lanas tractas madentes passo aut defruto, aut aqua mulsa.* And some of our country-men haue practised to giue them bay salt, and beane flower, and sweet wort. Al which things though they wil spēd, yet cannot the Bees be preserued by thē without hony.

Nat hist. l. 21. c. 14.

Touching the councell of *Plinie* this is to bee noted, that if you place their food *ad fores* before the dore, it wil draw strange Bees vnto them: whereby the liues of the one, and the goods of the other wilbe endangered: if you place it abroad from your hiue, then wil it bee common: and if within vpon the stoole, which is best, then must you remoue it in time, *v. n 16.* otherwise it will be no better for them then if it were set *ad fores*. And as for the deuise of teased wool, it is a fitter meanes to catch Bees then to feede them: for if the liquor bee aboue the wool, it will lime the winges of many; if not, many wilbe entangled in the smale haires as birds in a grinne. Couer it therefore with a linnen cloath so that the Bees may not creepe betweene.

11 *The best time of feeding.*

But it is far better to feed Bees before they need (that they may saue their store which they haue shut vp in their celles vntill the spring) namely in *Scorpio*, when otherwise they woule begin

begin to ſpend on the ſtock. And not before, leſt it be taken from them ; nor yet when it is colder then they can endure, leſt in ſeeking to ſaue their liues you cauſe their deaths, either within as they are feeding, or without whē they are gon for water, which at ſuch time they can not want.

Halfe the hony that they ſpēd in the ſpring, as they are commonly fed, wil ſerue them at this time, and doe them twiſe ſo much good. For thoſe that haue ſpent their owne ſtore, and haue litle or nothing leaft at the end of winter, ar ſo diſcouraged & ſo feeble with faſting, that knowing their thin bodies can beare out no cold, they wil not come abroad but when they are fed, and then only to fetch water, vnles the weather be exceeding warm & calme: & the more they keepe in, the vveaker ſtill they are. But thoſe whoſe rathe feeding hath cauſed thē to ſpare their ſtore till the ſpring, vvill bee as cheerefull as the beſt: in any reaſonable weather they vvil abroad, and fetch in that fruitfull *Ambroſia*, vvhich cauſeth them preſently to breed. *v.c.4.n.11.*

12 *The benefit of rathe feeding.*

The poore ſwarmes are to be fed much or little, longer or leſſe vvhile, according to their vvant. What each ſvvarme vvanteth cannot certainely be knovvne: nevertheleſſe, through ſome direction together with experience, you

13 *Bees are to be fed according to their want.*

may guesse neere the matter, alwaies obseruing this rule, that it is safer to offend in the excesse, then in the defect: although vvhat wãteth at this time, may be supplied in *Pisces* following. *v.n.*17.

14 *What proportion of hony to the Bees is requisit.*

Halfe the same quantity of hony that is of Bees wil keepe them al the winter. And therefore a gawne of hony wil serue a pecke of Bees without feeding. And a pottle will serue so many from *Pisces* forward. So that such a stal having but a pottel, needeth an other pottel to be given them in *Scorpio*, to feed thẽ til *Pisces*. And so proportionably of the rest. You may also cõiecture, when you haue fed thẽ, whether they haue sufficient, by comparing them in weight with other like swarmes that are vvell provided.

15 *The best manner of feeding.*

The best way to feed Bees is this, First take an emptie combe, and powre thereon so much hony as it may receiue: if you thinke it be not liquid enough, then either warme it first in a pot over the fire, or else spread it all over the combe with your knife, that it may sinke into the cels: for which purpose liue-hony is the best. This honied combe place vpon a treene platter, or holow round bord almost of the cõpasse of the hiue within: & then in a faire calme evening when the heat of the day and of the Bees worke is past, put it vpon the stoole, & so set downe the hiue over it. Thẽ wil those Bees

16 *The fittest time of the day for it is the euening.*

to

to worke a fresh, being out of danger of other Bees which then begin to rest their wearyed limbs. And in the morning they wil at it again betimes with al possible speed, that they may haue made cleane worke before the heat of the day: by which time the bordering Bees, being rise abroad, wilbe ready to rifle thē if they once resent the hony. And therefore before that time, whether the comb be rid or no, take it away, and close vp the hiue. The next evening (if the weather fit) dresse it so againe, not ceasing vntil you haue given them so much as wil suffice. This hony, when they haue first taken their refection, they convey into their voide cels: which because they cannot nowe shut vp (as before *Virgo*) for want of waxe, *v.* they do but halfe-fil. And therfore they first spend of it, reserving that which was more safely laide vp vntil the last. *v.c.6.n.13.*

If insteed of this combe thus dressed you wil take a ful honi-combe, then first open the cels with your knife: otherwise they wil not cōvey it, but wil cover and keepe it as their own cōbs til the weather wax cold, & then they forsake it and suffer it to spil.

17 *The second feeding time*

At *Pisces*, if you feare they will lacke, (which you may perceiue by their lightnes) doe likewise, and supply their want: but then it is best to giue thē their food in a morning, least colde and darknes overtake them, whiles greedy hū-

ger maks them ſtay to long; & ſo to let it ſtand vntil they haue conveied it. For in that month there is no great feare of robbing.

18 *The third time of feeding if need be.*

And if having omitted to feed them ſufficiently at theſe due times, you thinke it neceſſary to giue them ſomewhat in *Aries* or after, whē the wether is warme againe, let it be done in the evening as before in *Scorpio*.

19 *A generall caveat.*

But alwaies bee ſure, aſſone as the combe is laid, that the hiue be made cloſe, with no greater entrance then muſt needs be: leſt the borderers ſmelling the booty breake in, not without danger to the ſtal, and death to manie of themſelues.

Of the fruit and profit of Bees.

CHAP. 10.

Herein is ſhewed firſt the vindemiation or taking of the combes: ſecondly the trying of the *Waxe* & *Honie*, with the making of *Meth*: & thirdly the ſingular vertues of them, for the vſe and comfort of man.

The firſt part of this Chapter ſheweth the taking of the combes.

THE ordinary taking of the combes is by killing the Bees. For which the fitteſt time is in *Libra*: becauſe til then the cõbs ar ful of ſchadons, which deceiue the honi-mẽ, making the hiue heavier and the hony vvorſe: for the young Bees as well as the ſtopping corrupt the ſame. *Pulli & rubrae ſordes ſunt malis ſaporis, & ſucco ſuo mella corrumpunt.* Neither do the Bees any whit diminiſh the hony in their hiues vntil the end of this mõth, vnleſſe much fowle weather keepe them long in before. But if you ſee them in danger of robbing, rather thẽ looſe all, take them ſooner, and picke out the grubs as wel

1 *The firſt kind of vindemiation.*

2 *The beſt time of killing Bees.*

Col. l. 9 c. 15

wel as you may.

3 *What stalles are to be taken.*

At this time therefore consider with your selfe what stals you wil kill. Swarmes that maie liue, yeerlings, & two-yeerlings, you must keep for store. Those that haue stood three or fowre yeeres, and, by reason of their not swarming the last sommer, are ful of Bees, lightly are very fat, and therefore worth the taking: but they are also good for store. But if they haue cast twice that sommer (vnlesse they were very forwarde & had beat away their drones by S. *Iames*-tide) then are they not likely to continue, and therfore are to be takē. Likewise al poore *v.* swarms, vnlesse you meane to helpe them. Nether is it safe to trust any, after they haue stoode fiue yeeres.

v.c.9.n.1.

4 *The manner of killing Bees.*

Having made choice of your stals to be killed, thus must you do. Earely in a morning before any Bees be abroad, or in an evening whē al are come in, first digge a hoale in the ground as neere the stoole as may be, about six inches deepe and almost as wide as the hiue-skirtes. Then having a litle sticke whose length is more then the semi-diameter of the pit, put a brimstone-match in the one end beeing slit, and the other end beeing shript sticke into the side of the hoale, so that the match may stande right in the midle. This match is to be made of a linnen rag, wound in fashion of a candle, & dipt in melted brimstone, after the maner that

maides

maides make sluts. When you haue fired this at the vpper end, set over the hiue: and presentlie shut it so close at the skirtes, that none of the smoke maie come forth. So shal you haue them al dead in lesse then a quarter of an howre.

5 *Sundrie meanes to kill Bees.*

Next vnto brimstone is the smoake of tuch-wood, or puckfists vsed in like māner: but they are neither so quicke nor so sweete. And for a need some smother them with danke straw or hay: but then the hony wil smel of the smoake. And therfore some for want of brimstone, tuch-wood or puckfists, will drowne them in a tub of water: but that hurteth the hony, & doth the hiue no good: and besides that, many of the Bees being not quite dead wil sting thē that handle the hony. Therefore he that hath Bees must not lacke those forsaid necessaries.

6 *How to take the combes whē the Bees are dead*

The Bees being dead, squat the hiue softly against the ground vpon his sides: and then having loosed the ends of al the spleets, you maie easily take out the combes togither.

7 *Bees not to be killed when some are abroad.*

Some careles honi-men will take your Bees at any time of the daie, when many of them are abroad: the which at their returne finding all gone, presentlie invade the next. And some wil carry away the Bees aliue, and either willingly or against their wils let many out: which returning home will likewise trouble the next stals, and having begun wil set others a worke. It behoveth you therefore to prevent this danger, if

you

you may. But if at any time you be thus serued, the Bees will first come to the stoole where they stood, and settle there: where, if you attēd a while, you maie kil most of them.

8 *The second kind of vindemiation.*

An other way to take the combes is by driuing the Bees. The maner of it is this. At Midsommer, or within two or three daies after, in a faire morning an hower before sunrising, lift the stalle from the stoole, and set it vpright & fast on the ground by some staies, with the bottome vpward: & then quickly set on the emptie hiue, hauing first layed two spleetes vpon the full hiues bottome, that the emptie hiue may stand the faster. And so wrapping a Mantle round about the chinke or meeting of both the hiues, and binding it fast with a smale cord aboue and beneath, that a Bee may not get forth, knock the ful hiue round about a good many times, pawsing now and then a little betweene, that the Bees may asceād into the void hiue. And when you thinke that most of thē are driven vp (which wilbe about half an houre after) set the vpper hiue vpon the old stoole, & knock the Bees that remaine, out of the nether hiue vpon a table two or three foot square, set close to the forpart of the old stool, that thēce they may walke into their new home. When so you haue got forth as many as you can, carry the hiue away from place to place ever now & then

9 *The time & manner of driving Bees.*

then knocking the ſame.

10 *How to take the combs*

They which in the meane ſpace fly out, wil go to their fellowes. After a while, either without your garden or in the moſt remote part thereof, ſquat the hiue a little on every ſide: and thē, hauing looſed the ſpleetes ends, take out the combs one after another and wiping the Bees, that yet remaine, from each comb into a keuer or other like veſſel, ſend the combes as faſt as you haue wiped them into the houſe. And whē you haue done, ſet the kever and the emptie hiue before the ſtoole: and in a while the Bees wil goe al together, and gather vp cleane that little hony that is leaſt.

Prouided alwaies, before you goe about this buſines, that al the ſtalles in your garden bee firſt ſhut vp, leaſt they trouble you, and your poore Bees.

11 *This driuing of Bees vnprofitable.*

This kind of taking is much applauded at the firſt, becauſe men thinke thereby to ſaue both Bees, and hony. But it oftimes falleth out with them, as it is in the proverb, *All couet all looſe.* For the hony is neither ſo good, as being not yet in ſeaſon, and to bee corrupted vvith the ſchadons, *v.* which can hardly bee cleane takē from it; nether ſo much by almoſt the one halfe, ſith there remaine yet ſixe or ſeaven weeks of the chiefeſt honi-gathering.

12 *The hony taken is little & naughtv.n.2.*

And

13 *And the Bees driven fewe and poore.*

And the Bees, as men forcibly driven from their goods and children, are so discouraged; that they seldome thriue after it: specially those that haue swarmed, seeing their company is least but smal, and the after-brood is destroied, which should haue supplied the roomes of thē that are gone. And as for those that haue not cast, they might after that time yeeld a swarm, which would be better then the whole stal being driven: and if they did not swarme at al, thē would they be so much the better, ether to take for hony or to keepe for store.

The next yeere, if the stormy colde spring make not much spoile among thē (for in such weather the best stals, as most bold, loose most of their company) they vvil be sure to cast one very good swarme, if not two: and, when they haue done, to yeeld good store of honie.

14 *An other kind of driving.*

This driuing of Bees into leere hiues being nothing so profitable as it seemeth, I doe rather commēd vnto you the driuing of one stal into another: vvhereby the fruit of one is takē, and the liues of both are saued together.

15 *At 2 times.*

And thus some are to be driuen in *Libra*, or rather in *Scorpio*, because then other Bees vvill not be so busie: and some in *Aquarius* or *Pisces*, before they begin to breed.

16 *1 Driving in Libra.*

In *Libra* such stalles onely are to be driuen, as are fit to bee killed. *v.* and that into yeerelings or two-yeerelings, vvhich that yeere haue cast

Vall. 3.

cast twise, and therefore haue few Bees least in them; or into after-swarms, which haue half-filled their hiues with combes, and not much more: for if they haue wrought them downe within a handfull of the stoole, they are sufficient of themselues.

17 The maner of it is this. First moue these two stalles, the *stranger* that is driven, and the *receiuer*, as neere as may be one to another: & so let them stand together six or seauen daies, til they be well acquainted with their standings: and then, the weather being faire and cõstant, late in an evening, about ten or eleuẽ a clock, set the stranger fast on the ground with his bottome vpward, and the receiuer vpon him: & binde them close together as in the former driuing. And then, by often clapping the stranger between your hands about the space of a quarter of an houre, now and then pausing betwene, hauing driven most of the Bees into the receiuer, and so mingled them altogether, let them so stand til the morning. In the morning, an houre before sun rising if the weather be faire, otherwise you must stay longer, doe the like. This done, set the receiver vpon the strangers stoole (but be sure to bolster him vp with three tile shardes, that the driven Bees may easily get into the hiue on every side) and then knock the stranger downe vpon the table set before his stoole: and by clapping of the hiue

The manner of driuing in Libra.

hiue presently, get as many of the Bees forth as you can. And forthwith carry the hiue away from place to place: & ever when you be come to a newe place, and there haue knocked out some Bees, leaue there the stranger, and go directly to the receiver, and a little beyond: for the Bees wil follow you, and thereby the sooner recover the hiue. When by this means you haue wel nigh rid the stranger of his Bees, begin to take out the combs, proceeding as in the former driving. Assone as you haue done, and the Bees begin to be quiet, take away the bolsters, & cloome vp the receiver very close, leaving the dore no wider then must needes bee. And when they are quiet, let out your other Bees.

18 *How to reviue those that are chilled in driving.*

V.c.7.n.58.

If, the wether being not warme, you finde some Bees to be chilled about the hiue; fil your warme hands ful of them, and anone they will fly away to their fellowes: *v*, and if happily any of them chance to pricke you (which they will seldome do) your hand wil haue the more vertue to reviue the rest.

19 *How to help those driven Bees that want.*

V.c.9.n.16.

If you thinke there be not sufficient provision for this double stal in that single hiue, bestow a ful combe or twaine, *v*, as neede requireth, of the strangers vpon them: and thus vvil your Bees delight and prosper in new waxe, which in olde corrupte combes woulde decay.

20 In *Aquarius* or *Pisces*, when you haue poised your hiues, those that you find by their lightnes vnlikely to endure the spring for lacke of food, you may in like maner driue into such provided stalles, as haue fewest Bees: and so wil those receiuers be much the better, & cast both the rather and the greater swarmes. And if by chance at any time after, you find a stal decayed, thus may you saue them.

2. *driuing in Pisces.*

This driving wil not be so troublesome as the former, because the poore Bees wil easily change their hungry home for a place of plenty.

21 Exsection or castration is a third kind of taking: which is the cutting out of part of the combes, part being least for the Bees provision. And this was to bee done at two times in the yeere, * In *ortu & occasu vergiliarum.*

A third kind of vindimiation.

22 *Exsection vsed at two time.*

* *Virgiliarum ortus* after *Columel l.9.c.14.* is the 48 day from *æquinoctium vernum*: after *Var.* the 44. but then you must vnderstand that they accounted the *æquinoctium* to be in the 8 degree of *Aries* (although *Hipparchus*, as Col. saith, had then found it to be in the first) With vs the cosmicall rising of *Vergiliæ* or *Plaiades* being 7 starres in the neck of *Taurus*, and in the 24. degree of that signe, is known to be in the 3 of May, the 55 day after the true *æquinoctium*: which iumpeth with the account of *Columella*. And *Vergiliarum occasus* being in the same degree of the opposite signe, is vpon the 5 day of Novemb.

Var. l.3. c.17

But what part is to be taken, & what least, I find it not determined. *Priore messe* (saith Columella)

23 *What part to be exsected is vncertaine.*

L.9.c.15. lumella) *dum adhuc rura pastionibus abundant, quinta pars fauorum; posteriore, cum iam metuitur hyems, tertia relinquenda est.* But *Varro* then requireth for their store two third parts; *vt ne plus tertia pars eximatur mellis, reliquum hyemationi relinquatur.* And *Aristotle* because (as *Col.* granteth) *hic modus non est in omnibus regionibus certus,* doth not prescribe any certaine part, but leaving it to the discretion of the Bee-master, saith, *Cum fauos apiarij eximunt, cibi tantum relinquant, quãtum per hyemem sufficiat: quod si satis sit, seruatur examen; sin minus, vel moritur ibidem (sine discedat hyems abstet) vel deserit sedem, si serenũ nanciscitur.*

Hist.an.l.9. c.40.

24 Exsection ancient, but not profitable. Neither first.

This way of taking, as appeareth, vvas anciently vsed in plentifull countries, as Greece, Scicile, Italie, &c. But the former exsection, to wit in the spring, *Aristotle* no where mentioneth: and surely it must needs doe more harme then good, seeing the hiues are then full of schadons, which being spild, spilleth their swarming; and the store of hony, vvhich they seeke for, is then vvel spent.

25 Nor second.

And that also in the autumne (which yet is the fitter time) seemeth no lesse vnprofitable then troublesõe; because the Bees in the spring following, if they lack not hony to liue on, yet shal they lacke celles to lay their yong in, wher. by their breed wilbe hindered. And at nether time can it be don without much spoil of Bees.

But

But howsoeuer it faied with them, for our country I take it to bee very vnfitting. And therefore I say the lesse of it: referring the curious reader vnto the fifteenth Chapter of the ninth booke of *Colum.* and vnto *Georgius Pictorius*, who in his foureteenth Chapter writeth thereof at large. 26 *Specially for our Country.*

The second part of this Chapter sheweth the trying of hony and wax with the making of methe.

THE combs being taken forth break the presentlie, while they are vvarme, into three parts: the first cleane hony & wax: the second hony and wax with stopping: the third wax without hony. But that they maie breake right where you would haue them, first marke them out with the edge of your knife. 1 *The combes to be broken into 3 parts.*

The first part breake into a hair-sieue set ouer a pan, bowle, or other fast vessell that maie hold it (Cooper-ware wil leake though it bee wel iointed) and so let the liue-hony, *v.* run of it owne accord, so long as it wil: when it ceaseth running, breake the pieces and let them run againe: and lastly with a warme sharpe knife cut those pieces athurt the cels, & so let them run the third time. If the weather bee not warme, set the hony by a fire to helpe the running. 2 *The dressing of the first part for hony* *v.s. c.11. 27.* 3 *The first shoot is fine honie.*

This first shoot put vp apart for fine hony. *In*

4 How to know good hony.

omni melle q̃ p̃ se fluit vt mustũ oleũq̃, appellaturq̃ acaton, maximè laudabile est. Which you shall finde to haue these properties: cleere, odoriferous, yelow like gold, (vnlesse it be virgin-hony, for that is more chrystalline) sharpe, sweet, & pleasant to the tast, of a meane cõsistence betweene thicke & thin, so clammy that beeing taken vp vpon your fingers ende, in falling it wil not part but hang downe together like a long string, as that vseth to do which is clarified. And such doth *Iacobus Sylvius* describe the best hony to be. *Mel optimũ sit purum adeo vt totum perluceat, odorum, flavum, acerrimũ, dulcissimumq̃ gustanti & iucundissimum, consistentiâ nec crassâ nec liquidâ, sed tam sibi cohærens vt continuitatem suam, quasi linea longissima, non intercisũ servet, si digito attollitur: idem coquendo paucã spumam emittit.* But alwaies the best part of this best hony is that which is lowest in the vessell. [b] For as the best oile is in the top, and the best wine in the middle; so the best hony is in the bottome. *Mellis exilior pars fluitat, quæ eximenda est: pura vero & valida subsidit.*

Nat. hist. li. 11. c. 15.

L. 1. de medicam. simp delectu.

5 The best hony in the bottome.

Hist. an l. 9. c. 40.

[b] As among liqours oile excelleth in lightnes & hony in heavines; so in both, that part is best which excelleth in his excelling qualitie: & wine being of a midling weight is best in the middle. The weight of these three one to another hath this proportion. Oile is not so heavy as wine by one tenth part: for if you fil a measure with wine and divide it into ten parts, the same measure of oile is no heavier thẽ nine of them. And hony is heavier thẽ wine

by

by the halfe: for if you fill a measure with wine, the same measure of hony wil weigh that & halfe so much more. *Quoniam oleum levius est vino parte nonâ, mel vero gravius vino parte dimidiâ; quæcunq; mensura capit mellis uncias 15 capit vini uncias 10, & olei 9. Fern. meth. l. 4. c. 6.*

This hony when it hath wrought & settled, specially that which is in the bottome, will in time grow like vnto the corne. hony in the vppermost parts of the combes, hard and white: which indeed is the very best, *v.* if it could be got forth in his kinde: such as is the honie of [a] *Spaine* and *Narbona*, in *France*, which is coũted the chiefest, and compared with that of [d] *Hymettus* & *Hybla*.

6 *Corn-hony the best.* *v. c. 6. n. 26.*

[a] *Quin Hispani & Narbonenses mittunt albissimum & longè prestantissimum illeque præduram* Sylv. *l. 1. med.*

[d] *Nec Attico aut Hybleo inferiut cum regionis temperatura, & thymi larga luxuries utrobiq; consentiant* Idem. l. 2.

The rest of the first part pound with a pestle, or crush often with your hands al to pieces, & let it run as before. When it hath done, put this second shoot being but course hony, in a pot by it selfe, and that which remaineth in the sieue vnto the seconde part of your combs for methe.

7 *The second shoot is course hony.*

If there be any store of stone-hony, and you be loth to wash it into the meth-liquour, set it in some vessel over a soft fire, and stil keep your hand in the vessel stirring about the honie and wax, and opening the wax piece-meale vntil the hony and not the wax shalbe molten; and then powre out all into a strainer, & wring out

8 *Corn-hony got out by water or fire.*

the hony: But thus this good hony wil become but course: and therefore put it to the second shoot, and that least in the strainer to the secōd part. Otherwise you may clarifie it wel enough *v. part. 3. n. 8.*

9 *Most make but one shoot & so mar al.*

But the most part, partly for that they are loath to stand long about it, and partly that the liue-hony might be a meanes to get out some of the hard or stonehony, doe vse al alike. For when they haue pounded it altogether, they hang it vp in a thin heaven bagge, and thence let it run into a vessel. & some (which is worse) doe violently presse it out. But by these means they shal haue no fine & pure raw hony, howsoeuer afterward they handle it.

10 *The working of hony, and how to helpe it.*

The hony being put vp into pots, wil in two or three daies worke vp a skum, of wax, hony, & drosse together: which, being taken of with a spoone, put to the second part now dissolued in water. In cold weather the hony wil not worke wel without the heate of the fire. The best way is to put it into an oven after the batch is forth, but not before you can abide to hold your hand vpon the bottome, for feare of overheating the hony.

11 *The dressing of the 2 part for meth.*

The second part of the combes you must first rid of the stopping as neere as you can, cutting of that which is by it selfe, & picking out that which is among the hony: al which refuse, because of the wax that is with it, cast to the third

12 *How to make the liquor.*

third part. The other, with the remainder of the first part, lay a soake al night in warme faire water (that which commeth from the clowdes is best) the next day al-to-wash it and crush it betweene your hands, and then let it runne through the clen-sieue: that which is leaft, whē you haue crusht out the liquor, wash it once a-gaine in fresh water: which water adde to the other liquor, and then put the residue vnto the third part. And thus shall you loose none of your hony.

13 *How to know when it is strōg enough*

If the liquor be not strong enough to beare an egge the breadth of a two-pēce aboue it, thē put so much of your course hony into it, as wil giue it that strength: or rather, when it is so strong powre in more water (stirring it with the liquor) vntil the egge sinke. If any man thinke this to be too smale; it may be amended in the boiling: which (as anon is shewed) wil giue it what strength you wil, and cleerenesse withal. After this, stirre it wel together twise a day vntil the skum of the hony be ready to put to it, *v* which wh en you haue added, and haue likwise stirred it about the vessel, as soone as it is setled, straine it againe through the clensieue. If you mean to haue your meth very strong, you may make it to bear an egge the breadth of a groat. But the ordinarie meth is not so strong as the first. *v.n.10.*

If you would make a greater quantitie, then

14 *What proportion of water to honie.*

must you adde a proportionable measure of water and hony: namely fowr of that, for one of this.

15 *How & how long the liquour must be boiled.*

The liquor being thus prepared let seeth an houre or better, even to the wasting of one fourth part, or as long as it will yeeld any skum: which you must continually take from it, as fast as it riseth. For if it once sink down againe, the liquor wil not be cleere without putting in some cold liquour to raise it. And therefore it is good to keepe backe some eighth part of the liquour, and, when the rest hath boiled about halfe an howre and is wel skimmed, to powre in that cold liquour, & to skim it cleane againe.

16 *A receipt of spice to bee added.*

When it wil cast no more skum, take it frō the fire, and set it a cooling. When it is but milke-warme, straine it through a thicke linnen cloth into a tubbe to worke: & put into it a little bag of spice, *viz.* to 8. or 10. gawnes of *meth*, ginger and cloues of each halfe an ounce, cynamom and mace of each 2. drachmes al grosly beatē: and when it is wel soaked, rub the bag in your hand and wring out the liquour, & then leaue the bag in the tubbe, vntil the *meth* be tunned. At which time do the like.

17 *Boiling diminisheth the quantity & increaseth the strength.*

If after the *meth* is wel skimmed, you would yet haue it stronger, boile it longer, to the wasting of a third part, or of the halfe: for the longer you boile it the stronger it wil be.

18 *How to set it a working.*

To set it a working you may put into it a little

tle barme. And when it hath done working, put it vp into a barrel: where the *Meth* in time wil be covered with a mother, which if by iogging the barrel, or by other meanes it be broken, the *meth* will sower; but so will it make excellent vertioice, and the sooner, if it be set in the sun with the bung open.

19 The proportion of Lobel.

The learned Physitian *Mathias de Lobel* requireth this proportion: vnto one measure of hony take sixe of water, and let them boile to fowre. His receipt of spice is this, cynamom, ginger, peper, graines, cloues, *ana* drachm. 2.

20 His receipt of spice

21 Metheglen.

Metheglen is meth compoūded with herbs: so called *quasi Meth e glen*, meth of the vallie, because it is made in the vallies, where is abundance and variety of holsome herbes. He that listeth to knowe the many and sundrie makings of this holsome drinke, must learne it of the ancient Britaines: vvho therein do passe all other people. One excellent receipte I will heere set downe: and it is of that, which our renowmed Queene of happie memory did so vvel like, that shee vvould every yeere haue a vessel of it.

22 The Queens metheglen.

First gather a bushell of svveete-bryar-leaues, and a bushell of tyme, halfe a bushell of rosemarie, and a pecke of bay-leaues. Seeth al these being vvell washed in a furnace of faire vvater: let them boile the space of halfe an hovvre, or better: and then powre out al the

wa-

water and herbes into a vate, and let it ſtand til it be cold. Then ſtraine the water fró the herbs, & take to every [b] ſix gallons of water one gal-

[b] If you maruaile that ſo great a quantitie of water is required; it is partly becauſe of the goodneſſe of the hony, which being pure and fine goeth further then ordinary: but chiefly that it may haue the longer time to be clarified in boiling, before it come to his ſtrength. And therfore ſome wil haue eight parts of water to one of hony: but then they boile it ſo much the longer.

lon of the fineſt hony, and put it into the water cold, and labour it together halfe an houre, and let it ſtand two daies, ſtirring it well twiſe or thriſe each day. Then take the liquor and boile it anew, and when it doth ſeeth, skim it as long as there remaineth any droſſe. When it is cleer [a], put it into the vate as before, & there let it be cooled. You muſt then haue in a readines a kiue of new ale or beere: which as ſoone as you haue emptied, ſoddainly whelme it vpſide downe, and ſet it vp againe, and preſently put in the metheglen, & let it ſtand three daies a working: and then tun it vp in barrels, tying at every tap-hole, by a packthread, a little bag of cloues and mace, to the valew of an ounce.

[a] The third part atleaſt being waſted.

It muſt ſtand halfe a yeer before it be drunk of.

23 *The dreſſing of the third part for wax*

The third part, conſiſting of wax and droſſe, ſet over the fire in a kettle that may eaſily containe it: and powre into it ſo much water as wil

fill

fil it vp aboue the waxe, that it may boile without burning: and for this cause, while it is seething with a soft fire, stirre it often. When it hath sod halfe an howre, take it of the fire, and presently powre it out of the kettle into a strainer of strong twisted haire, and crush out the liquor with a wrench or presse into a kever of cold water: but first wet that the bag lyeth on with cold water, that the wax may not stick to it. At the first commeth forth most water, at the last most drosse, in the middle most wax.

24 *First boile it with water.*

25 *Then strain it*

26 *Next make it into balls.*

The wax being colde make into balls, squeesing out the water with your hands. When you haue this done, breake al the balls into a skillet or kettle: where being melted strain it through a linnen cloath into a bason, and skim it clean with a feather, and so let it stand til it bee cold: and then warme the bottome of the bason, & it wil easily come forth. The properties or tokens of good wax are, most yelow, sweet, fat, fast or close, light, pure, and void of all other matter. *Cera sit flavissima, odorata, pinguis, coacta, levis, pura, & alienâ omni materiâ carens.*

27 *Last of all melt it and make a cake.*

28 *How to know good wax.*

Syl. de med simp. delectu lib. 1.

The

The third part of this Chapter sheweth the singular vertues of (1) Honie (2) Methe and (3) waxe for the vse and comfort of man.

1 *The properties & vertues of hony.*

HOnie is (1) hot & dry in the second degree: it is of (2) subtil partes, & therfore doth pearce as oile & (3) easily passe into the parts of the body: It hath (4) a power to clense, and some sharpnes withal, and therfore it (5) openeth obstructions, it (6) cleereth the brest & lights of those humors which fall from the head to those parts, it (7) looseth the belie (8) purgeth the fowlnes of the body & (9) provoketh vrine, it (10) cutteth and casteth vp flegmatike matter, and therfore sharpneth the stomachs of thē which, by reasō thereof, haue little appetit, (11) it purgeth those things vvhich hurt the cleerenes of the eies (12) it nourisheth very much (13) it breedeth good bloud (14) it stirreth vp and preserveth natural heat, & prolongeth old age (15) it keepeth al things vncorrupt, which are put into it, & therfore (16) Physicians do temper therewith such medicines as they meane to keepe long: (17) yea the bodies of the dead being embalmed with honie haue beene thereby preserved from putrefaction. And *Athenaeus* doth witnes it to be as effectual for the living, writing, out of *Lycus*, that the

Lib. 2.

Cyrus

Cyrnij, or inhabitants of *Corsica* were therefore long-lived, because they did dailie vse to feed on hony, whereof they had abundance: & no marvaile: seeing it is so soveraigne a thing, and so many waies available for mans health, as wel being outwardly as inwardly applied. (18) It raiseth humours to the vpmost parts, and therefore is fitly laid to fowle vlcers: (19) it helpeth the grieses of the iawes, (20) the kernels growing within the mouth, (21) & the squinancie or inflāmation of the muscle of the inner gargil, for which purpose it is gargarized, & the mouth washed therwith: (22) it is drūke against the biting of a serpent (23) or mad dog: and (24) it is good for them which haue eaten mushroms, (25) or drunke popy; against which evil yet, rosed hony is taken warme. (26) It is also good for the falling sicknes, and better thē wine, because it cannot arise to the head, as the wine doth. (27) Lastly it is a remedy against a surfet: for they that are skilful in physicke, when they perceiue any mans stomach to bee overcome, they first ease it by vomit: & then, to settle his braine and to stay the noysome fume from ascending to his head, they giue him honie vpon bread. In respect of which great vertues (28) the right composition of those great antidotes *Treacle* & *Mithridate* requireth thrise so much hony, as of al other simples. Yea hony if it be pure and fine, *v.* is so good in it selfe, that

2 *As well outwardly as inwardly received.*

Synancke.

Angina.

v. p. 3. n. 3.

it

it must needs be good, evē for thē whose queasie stomachs are against it. But indeed the ordinary hony may wel be disliked as being sluttishly handled, and much corrupted with stopping, and Bees both yong and old, yea & other mixtures also.

(1) Galen. de simpl. med. facult. lib. 7. (2) tenuium partium. Simeon Seth (3) facile distribuitur. Matthias de Lobel (4) detergendi vim. Galen & Seth (5) Lobel. (6) Wikerus, & Freitagius. (7) Seth & Freitag: & Plantius in Fernelium de syrupis. (8) Seth. (9) Seth & Pictorius. (10)(11) Lobel. (12) Freitagius (13) Freitagius (14) calorem nativum suscitat & tuetur, & longam prorogat senectam. Plant. loco supra citato. (15) Seth & Plin. hist. l. 7. c. 3. (16.) Pictorius. (17) Claudius Cæsar scribit hippocentaurum in Thessalia natum eodem die interijsse. Et nos principatu illius allatum illi ex Aegypto in melle vidimus Pl. hist. l. 7. c. 3 (18)(19(20)(21)(22)(23)(24)(25) Pictorius. Mellis natura talis est, vt putrescere corpora non sinat. Faucibus, tonsillis, anginæ, omnibusq; oris desiderijs vtilissimū, arescentiq; in febribus linguæ. Pl. hist. l. 22 c. 24. (26) Lobel. (27) Pict. (28) Fernel. Method l. 7.

3 *For whome hony is best.*

Hony is most fit for (1) old men, for womē & children, for such as are reumatike & flegmaticke, and generally for all that are of a cold tēperature. (2) To yong men, and those that are of a hot constitution it is not so good, because it is easily turned into choler: & yet *Lobel* saith we know that hony taken fasting doeth much good vnto some natures, which haue hot livers: and in this point he preferreth our English hony. *Minus* (saith he) *speciosum ac delicatum Anglum: sed, quibusdam præsertim salibus & pascuis,*

4 *English hony*

vbi

vbi lana commendatior lectum, biliosa excrementa inferius extergendo pellit, & aciei oculorum prodesse putatur. So that hee seemeth to say that our hony is hurtful to none, because it purgeth that evil humor, which other hony in some bodies is thought to breed. But al hony often & immoderately taken (3) causeth obstruction, and so in time (4) breedeth the scab.

5 *Too much hony vnhol-some.*

(1) (2) Galen. l. 4. simpl. med dist. 3. c. 5. *Item* Seth, Pictorius, & Freitag. (3) Wikerus & Freitagius. (4) Lobel.

Raw hony doth (1) more loose the belly (2) causeth the cough, & (3) filleth the entrals with winde, specially if it be of the courser sort. Being boiled it is (4) more nourishing (5) lighter of digestion, and (6) lesse laxatiue, also (7) lesse sharpe and abstersory: for which cause they vse it to knit togither holow & crooked vlcers, & likewise (9) to close other disioined flesh. It is also good against the (10) pleurisie, against the (11) phthisis, and al other diseases of the lungs.

6 *The differēs operations of raw & boiled honie.*

(1) (2) (3) Freitag Pictor. & Wikerus, (4) Freitag. & Wiker. (5) Wikerus (6) Pictorius (7) Gal. & Seth. & Fernelius Methodi. l. 6. c. 12. Crudum cocto & despumato detergētius quidem multo est & mordacius: sed eo minus agglutinat (8) ad sinuum glutinationes, Seth. sinuosorum vlcerum, Gallen. (9) (10) (11) Pictorius.

You may boile hony either by it selfe, or else with the like quantity of water, or other liquor. But alwaies in boiling skim it, that it may bee pure. By it selfe you must boile it vntill it will yeeld

7 *Two waies to clarifie hony.*

yeeld no more skum,

The right skum, which is drosse, is short and brittle: which when it is cleane taken awaie, the force of the fire wil cause the very hony to rise vp like a skum: but that will then be tougher and more clammie then the drosse skum, and so wil al the rest be, when it is cold, as being over-boiled: therefore be sure to take it of in time.

(which wil be about halfe an houre) and that with a very soft fire, or in a double vessel, lest, by over-heating, it get a bitter tast, and lest it sodainely run over and flame.

With water it is to be boiled an houre at the least, evē vntil the water be evaporated: which thing is knowne by the bubbles that rise from the bottom, & by the wasting of the one halfe: then, to make it more pure, put into every poūd of hony the * white of one egge, and afterward skim it againe in the boiling. The fire may be more fervent at the first, but toward the end it must be slack: for it is then apt to be set on fire, as the meere hony, and to become bitter with violent heate.

*Less white may serue if the hony be good.

8 *How to clarifie stone-hony.*

If you wil clarifie the stone-hony remaining in the combs, thus doe. When you haue pared away as much of the wax as you may, breake the hony combes into a vessel to boile: and then powre faire water into it, vntil the water rise an inch or twaine aboue the bottome. Whē you haue set this over the fire, stirre it together ever now and then: as soone as it is al melted and beginneth to boile, take it of and

straine

ſtraine it, and then ſet it over a ſoft fire againe, & skim it cleane. vnto the skum put faire warm water: whē you haue ſtirred it about, cruſh the wax together in your hand, and lay it aſide: & the water (if you make no meth) either giue it to your Bees, or, hauing boiled and skimmed it, put it to your brewlock.

The courſe hony being boiled and clarified hath a moſt pleaſant & delicate taſt, & is comparable for moſt vſes to the pureſt bottome-hony being raw.

Which pure hony if you be diſpoſed to boil, it, wil aske leſſe time to be clarified, as yeelding little or no skum at all, and in taſt & vertue it is more excellent.

When your hony is boiled enough, take it from the fire, and rather too ſoone, then too late: for if there be any droſſe remaining, you ſhall find it in the top, when it is cold: but overmuch boiling conſumeth the ſpirittuous parts of the hony, and turneth the ſweet taſt into bitter.

9 *The quinteſſence of hony*

And ſuch is hony in his owne kind, both raw and boiled. It is alſo altered by diſtillation into a water, which *Raimundus Lullius* that excellent Chymiſt calleth the quinteſſence of hony. This quinteſſēce diſſolveth gold, & maketh it potable, & likewiſe any ſort of pretious ſtone that is put therein. It is of ſuch vertue that

10 *The virtues of it.*

if any be dying, and drink 2 or 3 drams thereof, presently he wil reviue. If you wash any woūd therewith, or other sore; it wil heal quickly. It is also good against the cough, catarre, & paines of the melt, and against many other diseases. Being giuen for the space of 46 daies together to one that hath the palsie, it helpeth him. Which thing *Iohn Hester* a practical Chymist, in his key of Philosophie professeth himselfe to haue proued. It helpeth also the falling sicknesse, and preserueth the body from putrifaction. Of so marvellous efficacie is this water.

11 *The making of it.*

The making of it is after this manner. Take two pound of perfect pure hony and put it into a great glasse, that foure parts of fiue may remaine emptie: a lute it wel with a head & receiuer, and giue it fire vntil there appeare certaine white fumes, which, by laying wet clothes on the receiuer and head and changing them when they are warme, wil turne into a water of a red colour like blood. When it is al distilled, keepe the receauer close shut, and let it stand til it be cleere, and of the colour of a rubie. Thē distil it in *Balneo Mariæ* seauen times, and so it wil loose this redish colour, and become yelow as gold, hauing a great smel & exceeding pleasant.

*The lute may be made of clay, flocks, & salt-water, tēpered together, or of meal and whites of egges.

12 *The virtue of hony in cō fections.*

Now as hony is good by it selfe, either altered or in his owne kind, so is it also being mixt with

with many other simples; which heere to declare would seeme but tedious and impertinēt. Notwithstanding it shal not be amisse in 2 or 3 instances to giue you a tast of such confections: and first of those that are inwardly, thē of those that are outwardly, receiued.

Of the first sort are marmalade, and marchpane, preserued fruits, as plums, & cheries: &c. Conserues of roses, violets, &c. with syrups of the like matter.

13 *Marmalade made of hony*

Marmalade is thus made. First boile your quinces in their skins til they be soft, then having pared and strained them, mix therewith the like quantitie of clarified hony, and boile this togither til it be so thick, that in stirring (for you must continually stirre if for feare of burning) you may see the bottom, or being cooled on a trencher, it be thick enough to stile: then take it vp and box it speedily. This is very good to comfort and strengthen the stomake. For want of quinces you may take wardens, peares, or apples, and specially the peare-maine, giliflower, pipin, and roial.

Fernel method l.7. de eclegmatis.

14 *Marchpane.*

Marchpane may be made after this manner. Boile and clarifie by it selfe, so much hony as you thinke meet: when it is cold, take to every pound of hony the white of an egge, and beate them together in a bason, til they be incorporat together and wax white, and when you haue boiled it againe 2 or 3 walmes vpon a fire of

coles, continually ſtirring it, then put to it ſuch quantity of almonds ſtamped as ſhall make it of a iuſt conſiſtence: and after a warme or two more, when it is wel mixt, powre it out vppon a table, and make vp your marchpane. This is good for the conſumption.

15 Preſerues.

Preſerue fruits after this manner.

The damaſcens, or other fruit, being gathered freſh from the tree; faire, & in their prime; neither greene or ſower, nor over-ripe or ſweet; with their ſtalkes, but cut ſhort: weigh them, & take their weight in raw fine hony: & putting to the hony the like quātity of faire water, boil it ſome halfe quarter of an howre, or til it will yeeld no skum: then having ſlit the damaſcens in the dented ſide for feare of breaking, boile them in this liquor til the meate cōmeth clean frō the ſtone, & then take thē vp. If the liquor be thē too thin, boile it more: if in the boiling it be to thick, put in more faire water, or roſe-water if you like it. The liquor being of a fit conſiſtence, lay vp and preſerue thereinyour fruits.

16 Conſerues.

Conſerues of Roſes is thus to be made. Take of the ioice of freſh red roſes 1 ounce, of fine hony [c] clarified 10 ounces, boile this together: when it beginneth to boile, adde of the leaues of freſh red roſes clipt with ſciſſors in little pieces 4 ounces, boile them to the conſumption of the ioice, and preſently put vp the conſerues into ſome earthen veſſel: keepe it long therein for

Melroſatum

[c] Cum vnci js aquę tribus mediocriter deſpumetur. V. n.7.

for in time it waxeth better and better. *Sylv.l.3 de med.simp. mist.*

Mel violatũ 17

After the same maner is made cõserus of violets.

Syrups.

Syrup of Roses make thus. Stiep fresh roses in hote water, the vessel being covered: when the water is cold, straine out the roses, &, heating the water againe, stiep other roses therein: this doe so often til the water be red. And this being purged with whites of egges, boile it with like quantitie of fine hony, vntil it be of convenient thicknes. [a] If you prepare it for present vses, the lesse boiling wil serue, if you meane to keepe it, it requireth more, for which purpose the sunning of it is good: This purgeth a little, specially being new.

Syrup of roses.

Sylv. med. simpl. mist. l 3.

Sylv. ibid.

Or thus. Stiep one pound of red rose leaues in 4 pound of water 24 howres. When the water is strained, put vnto it 2 pound of fine hony, and boile it to the thicknesse of a syrup, taking of the skũ as it riseth. It tẽpereth the hot affections of the braine, it quencheth thirst, it strengthneth the stomake, it procureth sleep, & staieth thin rheumes. *Fern. Meth.lib.7.*

The syrup of violets is made, after the same maner, of fragrant violets a little dried in the shade. Being wel boiled it may be kept a yeere without vinewing or corruption. It tempereth and purgeth hot and sharp humors; and therefore is good in a pleurisie: it expelleth melanchollie and the effects thereof, as headach, wa-

Syrup of violets.

king, dreaming, and heauinesse of hart: it is fit to be vsed before and after purging. *Plantius in Fernel. meth. l. 7.*

If any man like better to make these confections with sugar, let him take the like quantity as of hony, for sugar also hath with his sweetnesse a power to [z] preserue, as being a [r] kind of hony.

[z] Condiuntur fructus aut melle, aut saccharo. *Fernel. Meth l. 4. c. 17. & Syl. simpl. med mist. l. 3.*

[r] Saccharum quod ex India & fœlici Arabia convehitur, concrescit in calamis: estq; mellis species, nostrate certè minus dulce, sed similes ei vires obtinens, quod ad abstergendum, desiccandum, & digerendum pertinet. *Galen. de simpl. med facult. lib. 7* Saccharum est mel in arundinibus collectum *Plin l. 42. c. 8.* Saccharum mellis species cum sit, siccat quoq; & abstergit. *Fern. Meth. l 6. c. 12.*

18 *Hony to bee preferred before sugar.*

v. p. 2 n. 3. v p. 3. n. 1. & 2.

But in respect of the marvellous efficacie, which fine *v* and pure hony hath in preserving health, *v.* that grosse and earthie stuffe is no white comparable to this celestial *nectar.* Although some queint & ladilike palats (whom nothing but that which is far faught and deere bought can please) vnhappily neglect it. In preseruing fruits it hath more power through the viscositie thereof. Also conserves, & syrups being made with hony [r] continue longer, & doe more kindly worke their effects.

[r] Ex melle confectus syrupus diutius asservatur; is quoq; magis incidit, ac detergit. Ex saccharo suavior, sed non æq; efficax. *Fern. Meth. l. 4. c. 12.*

19 *Hony good in outward medicines.*

Hony is vsed in outward medicins for divers purpo-

purposes, [a] not only to conteine the other ingredients in forme of a plaister; but also to opē, to cleanse, to dry, to digest, and to resist putrefaction. And therefore it hath the predominance in that excellent salue called [b] *vnguentū Ægyptiacum*: which serveth to cleanse and mū. difie old sores, and to take away both dead and proud flesh. The receipt whereof is this. Of verdegrece ounces 5, of strong vinegre ounces 7, & of hony 14. boile first the hony and vinegre, & stirre them together: after a little while put in the verdegrece: and then, stirring altogether, let them boile vntil the ointment haue his iust thicknes, and purple colour.

20 *A salue for an old sore.*

a Mel panaciæ & alijs quibusdam emplastris miscetur, vt corpus prebeat emplasticum, & preterea siccet, tergeat, digerat, a putredine vindicet. *Sylv. de med. simpl. mist. l 3.* Mel calidum siccumq; ordine secundo aperit, putredini obsistit, siccat, deterget, expurgatq; meatus & vlcera, nec, vt sal, corporum substantiam coarctat. *Fern. Meth l 6. c. 12*

b *Sylv. de med. simp. mist. l 3 sect. 10. & Fern. meth. l 7.*

21 *Another.*

Another of like virtue but not so much corrosiue

Boile a quart of good ale in a skillet to a pinte: then put in one fourth part of a pinte of hony: and skimming stil as need is, let them boile together to the quantitie of the hony, or til it be of the consistence of a thick syrup.

22 *The properties and virtues of Meth & Methe-glen.*

What are the virtues & properties of *meth*, may partly be knowne by that which hath bin said of hony. For seeing hony is the chiefe mat-

ter whereof Meth is made; the meth must needs, together with the substãce of hony, participate the naturall qualities thereof. The which, by the purifying in boiling, together with the accesse of sundry wholsome spices and herbes, are rather confirmed & increased, then any way extenuated or diminished. Therefore saith Lobel, *Mulsum, vbi aqua plurimum, mellis non multum, diuturnâ intestinaq; mellis ebullitione in vinum longè vtilissimum abit.* And Pictorius, *Hydromel longâ vetustate transit in vinum stomacho convenientissimum.* Meth, when it is olde, is a wine most agreeable to the stomake: it recovereth 1 the appetite being lost, it 2 openneth the passage of the spirit or breath, it 3 softeneth the bellie, it 4 is good for them that haue the cough. 5 If a man take meth, not as his ordinarie drink, but, as physick, now and and then; he shal receiue much benefit by it, against quartan agues, against cacexies, and against the diseases of the braine, as *analepsie*, & *epilepsie*, or the falling evill: for which wine is pernicious: it 6 cureth the yelow iaundise: it 7 is also good against henbane with milke, and against the winter-cherie, it 8 nourisheth the body, 9. So that many haue attained to long old age, only by the nourishment of meth. And therefore no marvaile that *Pollio Romulus*, who was an hundred yeeres old, imputed the greatest cause of his long continued health to

this

this soveraigne drinke. 10 For being asked of *Augustus* the Emperor, by what meanes especially hee had so long preserved that vigour both of mind and body, his answere was, *Intus mulso, foris oleo.*

[b](1.2.3.4.) Pictorius, & Plin. hist. l. 22. c. 24. (5) Lobel. (6.7. 8.9.10.) Plin. hist. l. 22. c. 24.

23 *Meth much vsed of the anciẽt Brittaines.*

The same thing is more manifested by the generall example of the ancient Brittaines: who, aboue al other nations, haue ever beene addicted to Meth and Metheglen. For vnder heauen there is no fairer people of complexiõ, nor of more sound and healthfull bodies. Of whose Metheglen *Lobel* writeth thus, *Cambricus ille potus Methegla, non patrio, vti putant illi, sed [c] Græco nomine dictus, est altera liquida & limpida Septentrionis theriaca.*

24 *Whence Meth hath bin name.*

[c] Μέθυ. *Vinum.* From whence commeth our word Meth, which some corruptly call Mede, because it was wont to be written with a kind of *d.* For whereas wee haue in English two sortes of *th.* as you may perceiue in these words, *sheath, this, that,* & *heath, thistle, thanke,* the ancient English did expresse the former by *d* aspirat, which for difference from *d.* tenue (as in mead shed, &c.) they noted with a dash.

25 *The properties & vertues of naturall wax.*

Waxe hath no certaine elementar quality, but is a meane betweene 1 hot and cold, and betweene dry and moist, It 2 mollifieth the sinewes

news, it (3) ripeneth & resolveth vlcers. (4) The quantity of a pease in waxe beeing swallowed down of nurses doth dissolue the milke curded in the paps, and (5) ten round pieces of wax of the bignes of so many graines of millet or hẽpseede will not suffer the milke to curdle in the stomach.

1. *Galen de simp. med. facul. l. 7* (22. 2, 3, 4, 5.) *Georgius Pictorius.* Cera flava magis emollit, relaxat, dolorẽ solvit. eoq; illâ vtimur ad abscessus calefaciendos, emolliendos, concoquendos, & maturandos. *Iohannes Guintherius Andernacus.* Omnis cera mollit, calefacit, explet corpora: recẽs melior. Datur in sorbitione dysentericis, faviq; ipsi in pulte alicę prius tostę, advetsatur lactis naturę; ac milij magnitudine decem grana ceræ hausta non patiuntur coagulari lac in stomacho. Si inguen tumeat, albam ceram in pube fixisse remedio est. Nec huius vsus quos mixta alijs præstat, enumerare medicina potest. *Pli. nat. hist. li. 22. cap. 24.*

26 *Artificial wax.*

This natural yelow wax is by art for certaine purposes made white, red, and greene.

27 *To make white wax*

Wax is whited after this manner. Take the whitest and purest wax, which, being cut into smal pieces, put into an earthen vessel, & powre sea-water or brine into it as much as may suffice to boile it. And cast in also a little niter: al this set over a soft fire: when it hath boiled vp twise or thrise, lift the vessel frõ the fire, &, the wax being presently cooled with cold vvater, take it out, and when you haue scraped of the drosse, if any such hang on, & put it into other salt water, seeth it againe. And having boiled vp

twise

twise or thtise, as before, lift it from the fire againe: and then take the bottome of an other earthen pot, or a little round bord with a handle in the middle like a churn-staffe, but without hoales: and having first wetted the bottom of it in cold water, dip it into the hot vessel, & assone as this wet bottome toucheth the wax, pul it out againe, and you shal haue sticking to the bottome a thin cake, which whē you haue taken of, wet the bottome againe, and dip it as before: and thus do til you haue taken vp al the wax in cakes. These cakes hange in the open aire vpon a line drawne through them, so that they may not touch one an other, besprinkling them with water in the sun-shine vntil they be white. If any man would haue waxe whiter, let him boile it oftner, & do all other things in like manner as before.

28 To make waxe red, Take to one pound of wax, in sommer three ounces of cleere turpentine, in winter fowre. These dissolue over a soft fire, and by & by take it of to coole a little. Afterward mixe ther-with the red root of anchusa or [d] vermilion, well grounde on a marble or glasse, & sweet oile, of each one ounce: stirre al these and mix them vvel together. For want of vermiliō they take three times so much [e] red lead, but that is not so good.

To make red wax.

[d] *Cinabrium*

[e] *Minium.*

29 To make greene wax take in steed of vermilion the like quantity of vert-degreece,

To make greene wax.

And

30 *Oile of wax.*

And such is wax in his kind, both natural & artificial. Natural wax is altered by distillation into an oile of marvelous vertue. *Raymund Lulli* greatly cõmẽdeth it, proving it to be rather a celestial or divine medicine thẽ humane; because in woũds it worketh miraculously: which therfore is not so wel allowed of the common chirurgians. For it healeth a wound, be the same never so wide & big, being afore wide-stitched vp, in the space of 11. daies or 12. at the most. But those that are smal, this oile healeth in 3. or 4. daies, by annointing only the wound therwith, and laying on a cloath wet in the same. It stayeth the sheding of the haire, either on the head or beard, by annointing the place therewith.

31 *The vertues of it.*

Also for inwarde diseases, this oile worketh miracles, if you giue one drachme at a time to drinke vvith white vvine: for it is excellent in provoking vrine which is stopped, it helpeth stitches and paines in the loines, it helpeth the cold gout, or sciatica, and all other griefes comming of cold.

32 *The making of oile of waxe.*

The making or drawing of this oile is on this wise. Take of pure newe yelow vvaxe so much as vvill halfe fill your retorte or bodie of glasse: melt it on the fire, and then powre it into svveete vvine, vvherein let it soake: wash it often, and vvring it betvveene your handes: then melt it againe and powre it into fresh vvine, wherein soake it, wash it, and wring

it

it as before, & this do seaven times, every time putting it into fresh wine. When thus you haue purified the waxe, to every pound therof adding fowre ounces of the powder of red bricke finely bruised, put it altogither into your retort of glasse wel luted: then set the retort into an earthen pot, filling it round about and beneath with fine sifted ashes or sand, & set the pot with the bodie in it on a furnace, and so distill it vvith a softe fire. And there vvill come forth a faire yelovve oyle, the vvhich wil congeale in the receiver like pappe vvhen it is colde. If you should rectifie this oile, or distill it often, vntill it vvil congeale no more, then shall you make it over hot to take inwardly, and so quick in the mouth, that you cannot drinke it down. In the comming foorth of this oile, shal appear in the receiver the fowre elements, the fire, the aire, the water, and the earth, right marveilous to see. f V.n. 11.

So vertuous is waxe by it selfe, both in his owne kinde, and altered by distillation. It is moreover of great vse mixed with others, and is the grounde and foundation of cere-cloaths and salues: whereof to set downe 2. or 3. examples shal not be amisse. 33 The vertue of waxe in compound medicines.

A cere-cloath or *ceratum* so called of *cera* doth cõsist chiefly of wax & oile mixed in such proportiõ, as may make the ointment of iust cõsistẽce: & therfore g being made in sommer, or com- 34 A ceere-cloth

g Fer. merb l.4.c.19. & 20.

compounded with turpentine, lard, gum, marrow, or any liquid thing, a greater quantity of wax is required: and being made in winter, or compounded with rozin, pitch, metals, dryed hearbs, powders, or any dry thing, a lesse quantity sufficeth.

The ingredients being prepared, first melt the wax, and whatsoever els of like nature; as pitch, suet, &c. in the oile over a gentle fire, or in a double vessel, for feare of burning: when they are melted together, put in the powders and other like ingredients if there be any: and assone as you haue stirred them well together, (before the liquor be very hot) set it a cooling, and make your cere-cloath.

35 *A cercloath to refresh the sinews & muscles.*

A cere-cloath to refresh the wearied sinews & tired muscles is thus to be made, take [a] oile & wax of each 2 ounces, turpentine 2 drams, and hony halfe an ounce.

[a] *Fern. Method. l. 4. c. 19.*

36 *A cer-cloath to comfort the stomach.*

To comfort the stomach and helpe concoctiō make a cerat thus take [b] oile of mastich, of mint, of wormwood, of nutmeg & [c] speeke, or any of these, and a convenient quantitie of wax.

[b] *Fern. Meth. l. 5. c. 22.*

[c] *Nardinū.*

For the wormes in the belly of a childe or other: take 1 ounce of yelow wax, 1 oūce of rozin, 1 spooneful of triacle, 2 pennyworth of Aloes *ad minim.*

For

For example of a plaister, take *emplastrum de ianua.* marvellous effectual in curing greene wounds and new vlcers. It asswageth inflamation, it cleanseth, it closeth, & filleth with flesh, and maketh whole. It is thus made: [r] take the ioice of parsley, plantan, and betonie, of each, one pound: wax, pitch, rozin, and turpentine, of each halfe a pound: boile the wax, pich, and rozin in the ioices, softly stirring al together vntil the quantitie of the ioices be wasted: & then taking them of the fire, put in the turpentine, and mix it with the rest. 37 *A salue for a green wound.*

[r] Sylvius de medicam. simpl. mist. l. 3. & Fern. meth. l. 7.

An other of like effect. 38 *Another.*

Take deer or mutton suet, wax, rozin, and turpentine, of each two ounces: boile these together, & skim them: then take this liquor from the fire, &, when it is somewhat cooled, put in two handfulls of the tops of hysop, and stir it about, and setting it over the fire againe, boile it softly about a quarter of an howre, til it bee greene: and then straine it, and let it coole. This is chiefly to bee made in May, because then the hysop is in his prime.

Thus

The conclusion to the Reader.

THus haue I (industrious Reader) disclosed vnto thee the hiddē secrets of the Bees and their fruits. Now when thou haste, through my instructions, received the profite and pleasure, which these divine creatures abundantly yeelde; be thankful vnto God, giue him his part that giveth thee all, and pay iustly the tithe of the increase: for God maketh claime vnto that part, as peculiarly belonging to himselfe. So that, although he haue assigned it to the priests & ministers for the time being, that are consecrated to do him service at his altar; yet doth he hold himselfe perpetually interessed therein. And therefore, howsoever some may thinke that in deteining tithes they rob only men; yet the Lord doth charge such malefactours with a greater crime, saying *you haue spoiled me*: & when they taking it (as manie do now) to be no such matter, did aske *wherein haue we spoiled thee?* The Lord answereth *in tithes and offerings.*

Lev. 27. 30.

Mal. 3. 8.

But some new-fangled Brownist, that loues stil to be broaching fresh opinions, or some cormorant atheist, that lieth gaping for the ruine of

of the church, wil say, The paying of tithes was commanded by the law of Moses, but in the time of the gospel it is not necessary: A competent exhibition indeed is to bee allotted to the clergie for their maintenance; but that may be better effected by other meanes, then by tithes. As though the foolishnes of men were wiser then the wisdome of God: as though mē in their blind and vncertaine imaginations could devise a better way for the continuall maintenance of the ministery and seruice of God, then that which himselfe in his provident and al-seeing wisdome hath appointed.

This competēt maintenance (as one wel saith) is a Castle built in the aire, which never yet stood vpon the earth. It hath beene indeed attempted in many places: but what is done? The tithes are wickedly wrested from the true owners, and the competent maintenance, in liew therof, is a poore pittance (God wot) cut to that scantlet, that it may serue only to keep them aliue. Yea some of them are held in that base and contemptible state, that, to the great slaunder of the Gospel, and the scandall of the weaker sort, they are faine to goe from house to house for a morsel of bread. Can they think that God, who did sufficiently and liberally provide for the Priests vnder the law, hath leaft the Ministers of the glorious Gospel of Christ to the courtesie of them, which (as wofull ex-

perience doth dayly manifest) are more ready to rob, then reward thē? Which do even straine their wits to the vtmost, by one trick or other, to seaze vpon their mangled portion, with griping talents to rent it piece-meale from them, and so, cruelly to prey vpō them, which in the meane space doe pray for them?

It cannot be denied that tithes were once the Lords, when it was said, *All the tith of the land, both of the seed of the ground and of the fruit of the trees, is the Lords, it is holy to the Lord.* If it were once his, why is it not his still? Who is he that hath dispossessed him of his right? And if, being his, it were to be paid vnto his servāts the Priests and Levites, for the service of God vnder the law; why should it not likewise bee paied vnto his servants the ministers of the word and sacramēts, for the service of the same God in the Gospel? Our sauiour reproving the Scribes and Pharises, because they stood more vpon the observation of the smaller duties of the law, thē of those that were greater; saith vnto thē, *Yee tithe mint & anise & cummin, & leaue the waightier matters of the law, as iudgement and mercy and fidelity*; giuing his sentence of them both, *These things ought you to haue done, and not to haue least the other vndone.* Where you may see that Christ himselfe commaundeth the paying of tithes, which are the smaller things, though hee preferr iudgement and mer-

Leu. 27. 30.

Mat. 23.

mercy & fidelity, which are the greater things, of the moral & perpetuall law of God. So doth that ancient father *Origen* expoūd these words of Christ, shewing that the commandement of paying tithes is to bee observed according to the letter, *Vt hæc observanda, etiam secundum literam, ipsius Dei vocibus doceantur; dicit Dominus in evangelus, va vobis, &c. Vide ergo diligentius, quomodo sermo Domini vult fieri quidem omnimode quæ maiora sunt legis, non tamen omitti & hæc quæ secundum literam designantur.* And therefore in the same place he saith, *Non mihi videtur huiusmodi anima habere memoriam Dei, nec cogitare nec credere quia Deus dederit fructus quos cepit, quos ita recondit quasi alienos à Deo. Si enim a deo sibi datos crederet, sciret vtiq, munerādo sacerdotes, honorare Deum de datis & muneribus suis.* Likewise S. *Cyprian*, who lived in his time. After them *Chrysostome*, and *Ierome*, who hath many places to this purpose, as these, *Quod de decimis diximus, quæ olim dabantur à populo sacerdotibus & Levitis, in ecclesiæ quoq, populis intelligite.* And againe, *Ecclesiæ populis præceptum est dare decimas.* Also S. *Ambrose*, S. *Augustine*, *Leo* the first, *Gregorie* the great, with the other good bishops of the sea of Rome. Neither only these chief, ancient, most learned, and godly fathers and doctors of the primitiue church; but also whole counsels, as an vndoubted truth, *vnanimi consensu* teach the same; as is at large declared in the learned

Hom. 11. in Num.

In Mal. 3. 8.

Ibid.

& religious discourse of that godly Divine Mr, *George Carleton*; where he maketh it cleere, that tithes are consecrated to the Lord for ever, and that the cōmandement of paying them is moral and perpetual. *Concil. Metisconense.* 2. which was held *An. Do.* 580. *Can.* 5. hath these words. *Leges divinæ cōsulentes sacerdotibus & ministris ecclesiarum, pro hæreditaria portione, omnis populo præceperunt decimas fructuum suorum sacris locis præstare; vt nullo labore impediti, spiritualibus possent vacare ministeriis: quas leges Christianorum congeries longis temporibus custodivit intemeratas. Vnde statuimus, vt mos antiquus reparetur, vt decimas ecclesiasticas omnis populus inferat.* In which Canon the fathers of this councel do witnes, that the ordinance of tith was very ancient in the church before thē, & vniversally kept amonge Christians, as being commanded them by the law of God. Vnto this councel the forenamed author addeth many others (as in his book you may read) succeeding one another from time to time. Wherevnto also accorde the writers of later times, as *Beda*, *Cæsarius Arelatensis Episc.* *Nicolaus Lyra* and *Walafridus Strabo*, whose words are these, *'Decimas Deo & sacerdotibus eius dandas Abraham factis, Iacob promissis insinuat, deinde lex statuit, & omnes doctores sancti commemorant.* And therefore the constitutions of princes, as of [a] *Charles* the great, of [b] *William* the conquerour, & other kings of this Realme both be-

V. The maintenāce of the ministery written by R. Eburn.

[a] v. Ibidem.
[b] v. The view. pag. 335.

before and after haue confirmed the same.

So that this Cathohke doctrine was alwaies taught and observed in the Church of Christ without controlement or contradiction, vntill that Antichrist sitting in the seate of God, but teaching doctrines of Devils, as hee corrupted other waightie points of christian religion, presumed also to change the right & ancient vse of tithes, and translated them from the ordinary Pastors and Curats, vnto regular or rather irregular Priests, which wickedly wasted them in idle Monasteries.

But that lay men, which wait not at the altar, should lay their prophane hands vpon the Lords portion, and receiue tithes, is such a sin, as the man of sinne himselfe would not attēpt, and such an abhomination as in former ages among Christians or heathen the world never heard of; nor ever was knowne in this famous Iland, since first it imbraced the faith of Christ, vntil that strange act, whereby the Church was vnmercifully spoiled, not only of hir lands, the gifts of men; but of hir tithes also, the gift of God. The fact of *Charles Martel* in France was indeed more ancient; but what affinitie hath that with this? For there a portion of tithes was granted to this Champion for the defence of the Church, against the violent irruptions of the barbarous Gothes & Vandals, which would haue robbed and ruined the Church: but here

the tithes were giuen to the robbers themselues. Since which time, they are so farre from restitution, or any remorse of the fact, that they daily thirst after that little which is leaft: and, like drunken men, the more they drinke, the drier they are. It is a world to see how witty & diligent they are in laying plots, what shifts and slights they invent and practise for the withholding of tithes: abusing the very laws to their purpose, and making even those to maintaine their sacrilege, which were made to a contrary ende.

If in former times, when the land was so overgrowne with trees that it had enough for it selfe and other countries also, it were enacted, that, *wheras mē did sell their great wood to merchāts to their owne profit, or in aide of the king in his wars, and the merchants were impleaded in the spiritual court for the tithes of the said wood, whereby the owners cannot sell their woods to the very valew, to the great damage of them and of the realme; it is ordained that in this case a prohibition shalbe granted, &c.* If this I say haue been enacted, then the worde *great wood* or timber trees, shalbe taken in the largest sense, and shal containe not only oake, elme, and ash; but beech also & maple, for they be trencher-timber, and with some withy also, for that is harow-timber, and I doubt not but in a while they wil haue vnder-wood and al, & say tis fire timber, as in many places they haue begun

An. 45. Ed. 3.

begunne already. And these trees shalbe tithfree, not body only, but bough also; not only when they are felled, but as often as they are lopped. Whereas, if the meaning of the statute may be knowne by the wordes, the statute giveth vway to none of al these evils. For first, there is no mention at al in these wordes of any immunity or discharge of tithe: vnles they wil say that wheresoever a prohibition is granted in a cause of tith, there he that sueth for the tith must loose it: which, albeit the modern practise make it seeme probable, yet wil they not say that it is perpetual. But bee it so, Yet how doth this concerne the lops of trees which are cut from the standing stems, and serue not for timber but for fuel? Nay where are the trees themselues, as now they are vsed, freed from tith? It is ordained by this law, that *wheras great wood is sold to merchants for the owners profit, or in aide of the king in his warres, &c. in this case a prohibition shalbe granted.* They therfore that would pay no tith must shew that their case is this case (which I think in these daies few cā do) or els their trees are no more freed from tithing by this statute, then any other fruits of the earth: as good reason is they should not be, seeing God giveth the increase of them with so little cost & care. But even in this case, where the bodies were discharged of tith, because they were sold to the merchants (who, if they should pay for

the tith to the church, would not giue the ful value of the timber to the seller, to the great damage of the Realme) the boughes were not exempted which were least behinde, for which the merchantes could not bee impleaded; nor the Realme receiue any great damage, if the parson made him a fire with the tenth part?

If the law haue said, that *barren heath or wast grouud, which before this time haue lien barren and paide no tith by reason of the same barrennes, being now improved and converted into arable grounde or medow, shall after seaven yeeres pay tith*; this is sufficient reason for some, whē they haue grubbed vp a few bushes or trees in a fat & fertil groūd, to pay no tith thereof for seaven yeeres after: whereas indeed the law speaketh only of such ground, as *by reason of his barrennesse did pay no tithe.* But in the next proviso, it speaketh of ground that yeeldeth some tith. That cannot be vnderstoode of tith that the grounde yeeldeth in any fruit: for then there would follow a manifest contradiction betweene the two provisoes, the first speaking of land, that, by reason of his barrennes, yeeldeth no tith: the seconde saying, that such land yeeldeth sōe tith: neither do the words of themselues import such meaning: for it is not said, *if any such groūd haue yeelded or brought forth any tithe*: but *if any such barrē ground haue bin charged to pay any tith*: as it might formerly haue beene, by some composition or

agree-

agreement, either by it selfe, or in general with other land; though now, by reason of his barrē-nes, it yeeld no tith *in specie*. But it is said in the later proviso, that *it shal pay that charged tithe during those seaven yeeres*, and therefore no reason that it shoulde also pay the tith which it yeeldeth *in specie* during the same time. True: for how should we blame them that pay lesse thē the tith, if we would receiu more thē the tithe, sith both are alike vniust. But the ecclesiastical law yet in force requiring the tithe *in specie*, & this statute, requiring it according to a former rate; if by the benefit of either law wee take but one of them, we haue but our due, which neither equity nor any law forbiddeth. These provisoes then concerne only such ground as, by reasō of the barrennes therof, yeeldeth no tith in fruit; though, by some agreement it might be charged to pay some kind of tith. But howsoever, this law is altogither affirmatiue, commanding, not forbidding the payment of tithe, as being made purposely in favour of the clergy. For it doth not say, that seaven yeeres after the emprouement it shal pay no tithe; but, leaving it for those seavē yeers *statu quo prius*, doth ordein that after those seaven yeeres, notwithstanding any former agreement or other pretence (*vnlesse it were discharged by act of parliamēt*) it shal thence-forth pay tithe *in kind*. So that the very letter of the law giveth no such advātage

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vnto the evil disposed, that with any sense it cā bee enforced against the good meaning of the law-makers, which, as appeareth by the title, preamble, and the whole tenor of the act, was made for the good (as is said) of the cleargy, & not for their hurt, as now, by the iniquity of the times, it is vsed.

If the same law, for the true payment of personal tithes by the Merchants, Clothiers, Buyers and sellers, and other tradesmen, shal but say, that it shal bee lawful to vse all lawfull and reasonable meanes, *other then the parties owne corporall oath*; this shal be an occasion vnto many, yea, if not to all, to almost all, to discharge themselues of al such dues. For albeit the personal tithes of the tradesmen are no lesse due, as wel by the temporal, as ecclesiastical law, thē the predial tithes of the husbandmen; yet they which by their trafike or trade haue gained cleerely 40, 50, yea hundreds of pounds, are not ashamed to come to the Church at Easter, like poore day-labourers, with their bare two-peny-offerings: but as for their tithes, because they cannot be put to their othes to say what they are, they keepe both the knowledge and paiment of them from the Priest, and make no rekoning at al to honour God *de datis & muneribus suis*, out of his owne giftes and benefites: as if God were the God of the husbandmē only, and not of the tradesmen; or as if they receiued

An. 27. H. 8. c. 20. & An. 2 & 3. Ed. 6 c. 13.

Orig. supra.

ceived not their temporal, nor expected eternal blessings at his hands. For otherwise with what face could they appeare before the Lord in his sanctuarie, and there, as chiefe members of his Church, take vp the chiefest roomes; and yet contribute nothing toward his service and worship, in whome they liue, and moue, and haue their being?

If an other branch of the same act, to confirme the ancient both *right* and *manner* of tithing, shal say that *every of the Kings subiects shal pay their tithes truly and iustly in their proper kinde, in such manner and forme as hath beene of right paid within 40 yeeres next before the making of this act*; this law shalbe wrested to maintaine the deteining of the greatest part of some tithes, that is, the withholding of tithes of great value for the payment of trifles in liew thereof. (Whereas, if they would redeeme their tith, in equitie they should giue the ful valew; & by the law of God they should adde somewhat more.) And yet this Law, which is pretended to iustifie this iniurie, in the hardest construction that it may beare, can not imply any such matter; but doth indeed plainly command the contrary. For it doth not say they shal pay the twentith, or the fortieth, or the hundreth part (as in some cases, by pretēce of this law, some vse to do) but they shall pay *the tithe*, 1. the tenth part. And lest the tenth part should bee made worse then the

Lev. 27. 31.

rest,

rest, either in matter, or quantity; it is added *truelie and iustlie*, for which an other act hath *according to the ecclesiasticall lawes and ordinances of the churchof England*: which laws are so farre from permitting the diminution of tithes by any iniurious custome, that they doe precisely forbid it.

An.27.H.8. c.20.

As namely in the booke of decrees. *Quicunq; recognoverit in se quod fideliter non dederit decimas suas, modo emendet quod minus fecit. Quid est fideliter dare, nisi vt nec plus nec minus aliquando afferat de grano, aut de vino, aut de fructibus arborum, aut de pecoribus, &c.* Which, being the saying of that holy father Saint *Ambrose*, vvas aftervvarde ordained for a lavve. Againe, *In decimis realibus non valet consuetudo, vt solvatur minus decimâ parte.* And againe, *In eo autem quod non solvantur decimæ, vel minus plene solvantur, nulla valet consuetudo.* And therefore the parishioners might not redeeme their tithes, vnlesse they would giue the worth of them. *Nisi parochiani velint pro talibus decimis competentem facere redemptionem, & hoc ad valorem decimæ, & commodum Ecclesiæ.* According to the meaning of which lavves (to put the matter out of question, and to remoove all doubtes, vvhich any covetous caviller mighte devise) it is added in the foresaide statute in expresse vvordes *in their proper kinde*

Caus.16.q.7.c. quicũq;

In serm.de quadrages. Linwood in glos. de decim c. Quoniam propter verb consuetudines. Innocent. Extra de decim.c. In aliquibus. Linwood de decim.c. quoniam propter.

kinde, as they shall rise or happen. Not after anie pretended vnequall composition, or custome of having halfe or more for nought, but *in their proper kinde.* So that they, vvhich vvill iniuriousliie detaine their tithe for lesse then the value by pretence of custome, haue nowe no shift leaft them to excuse their evill minde, being commanded as vvel by the common lavve of the lande, as by the Canon lavv of the Church to pay their tithes *truely in their proper kinde.*

Novve for the manner of this true and iust paying of tithe *in specie or in their proper kinde* (vvhich in diverse places is different, as to tith corne in sheafe or in shocke, to tith hay in grascocke or hay-cocke, to tithe lambes by choice or by running, to tithe vvooll by vveight or by order of the fliecces, &c.) it is here commanded to bee such, *as hath beene of right vsed forty yeeres before the making of that act.* For vvhich an other statute hath *after the laudable vsages and customes of the parish or place where hee dwelleth.* Both which clauses are a plaine declaration of the ecclesiastical law, which saith, *Non tolluntur consuetudines diversæ, quæ consistunt in diverso modo decimandi. Aliqui namque decimant secundum garbas, proijciendo eas sparsim in sulcos; alij decimant secundum acerves, garbis invicem collectis: alij decimant non in campis*

An 27. H. 8. c. 20.

Linwood in glos. de decim. c. Quoniam verb. consuetudines.

campis, sed in horreo proprio: alij ducunt illam decimam in horreum sacerdotis. Vnde in talibus & similibus non potest esse vniformis petitio decimarum, saltem vt servetur idem modus reddendi; licet sit vniformitas, vt integra solvatur decima sine diminutione. The diverse customes, which consist in the divers manner of tithing, are not taken awaie. For sõe do tithe by sheafes cast here & there in the furrows: others tith by the hiles & shocks, the sheafes being gathered togither, &c. So that in these and the like, there cannot be kept an vniforme manner of paying tithe; although ther be this vniformity, that the whole tithe be paide without diminutiõ. So then to vse to pay lesse then the tithe, which by no law is alowed, is a custome not *in modo decimandi*, but *in non decimando*: for hee cannot bee saide to pay the tithe, that payeth but part of the tithe, vnlesse it bee by the helpe of a *Synecdoche*: which trope in the matter of tithing is verie frequent. But, notwitstanding the sense of the wordes & manifest meaning of both lawes, say it were a custome *in modo decimandi*: yet, I hope, they will not say it is *a laudable vsage or custome* to steale a goose and sticke vp a feather; to defraud a poore Vicar of his maintenance, by keeping away his tith for a thing of nothing. When these bargains were begun, the mony, no doubt, was the ful worth of the tith; for otherwise by the law they could not haue stood: but now the pri-

Pars pro toto.

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ces of things are so enhaunsed; that, if al tithes should be sold accordingly, he that now is able to giue to him that asketh, would bee glad to aske, if any would giue. If the lawyers should receiue the rents of their purchased lands after this rate, they would surely haue more pittie of their poore Pastors.

If any man therefore, by some over-reaching match or other pretense, haue vsed to keepe back part of his tith; this cannot warrant him to doe so still (for a custome of sinning, doth not extenuat but aggravate the sin) but should rather provoke him to make satisfaction at another time, for the former wrong: and so surely would doe, if men did not preferre the worship of their earthly *Mammon*, before the service of the God of heaven.

Thus you see how iniuriously this good law is rakt, and made to speake that which it never meant. But this is not all: there is yet a farther vse, or rather abuse made of it. The great ones, suppose Patrones, Iustices, and other rich men, wil not only hold that which they haue fingered; but, by virtue of this law, or rather by the vice of their greedy mindes, doe practise dayly to make new customes. First they wil buy their tithes of the poore Minister, specially if hee be obnoxious vnto them, at what rate they list; or else hee shal haue their heavy displeasure, the which his weaknes can hardly beare. He that succee-

succedeth is charged with covetousnesse and vnkindnes, if he wil not vse them as wel as his predecessor: and so, after a few yeares, if any mã find himself aggrieued, it is a custome forsooth; and shal goe among them that were 40 yeeres old in the daies of King Edward.

Yea some haue their hearts so hardened in this sin, that if their tithes haue beene forborne for a time, for feare, or favour, or inabilitie to endure the charge of suit, or some other respect; they wil be ready to claim an immunity, refusing to pay either tith or any thing for it. If you demaund your due, their answer is, Wee haue not vsed to pay any thing, nor any thing wil pay. If you say There is no custome *in nõ decimando*, that wil not serue, you must sue them, if you will haue it: which if you doe, and happily bee able to holde out till sentence, yet are you not much the neere, you shal thẽ be called into other courts, where you are sure to be held so lõg (to the losse of your times which should otherwise be imployed, and to the exhausting of your little liuelyhood which were fitter to be bestowed vpõ your family & other poore people,) that it had bin better for you to let thẽ goe quietly away with it, & thanke thẽ too, that they would haue no more. And in all likelyhood, when all is done, & you haue wearied your selfe and wasted your state; your right shall iniuriously be iudged from you, by a parti-

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al Iurie: which wil be as ready to gratifie others, as to be gratified themselues; and in this case to do, as they would be done to. For what iustice can *petitores* expect, where *reis* be *iudices*, or how is the plaintife like to speed, where the defendant need make no other answer, thē, *Aske my fellow if I bee a thiefe.* But imagin that they were indifferent, & that the cause did not concerne them; yet how can they be thought fitte iudges in a cause of tithe, seeing neither they nor their informers haue knowledge in that law, whereby the right of tithe doth stand: and therefore must needes speake as skilfully in such questions, as that great disputer would haue done in the common law: Who, as it is reported, comming into England, and making here a general chalenge to dispute with al cōmers *in omni scibili*, was vndertakē by *Sr Thomas More*; who proposed vnto him this question. *An averia capta in Withernamia sint replegibilia.* With the very recital whereof the challenger was so dasht, as vnderstāding neither the matter nor the words; that he was faine to confesse his ignorance; & to leaue the handling of such abstruse questions, vnto the learned professors of the faculty.

An other grievance there is, wherein I appeale to their owne consciences, if they doe not vnconscionably and cruelly handle vs: For whereas in many places, against law and e-

quity, they keepe from vs the tithe of a cow-white for ij d, which is better worth then two-shillings; there are, that, not content with this, by the meanes of this, doe subtily defraud vs of our other tithes. For they turn whole liuings into Pasture, and into this pasture put nothing but kine; and so, all being demised together, if it yeeld the owner a rent of 20 pound (the due tith whereof is 40 shillings) the poore minister shal be bobd with scarce 40 d. Let me ask of these men, not to vrge them with equity and cōscience, whether that, according to the law, they *pay their tithes truely and iustly in their proper kind.*

Nether yet, in this great invndation of oppressions, hath the Church found such friends, as would oppose themselues against the rage thereof, but that the floud over-floweth where it listeth, and the violent streame carieth al afore it. In ancient times, when wronges were not so rife, the Churches had their Patrons to defend their rights. The name remaineth vnto this day: but the nature is quite changed. For of al the enimies, that the Church hath, the Patrones, for the most part, are now growne the greatest. In stead of defending, they spoile the Church: for the effecting whereof they haue many feat deuises. Some giue two livings at ōce, that, at the least, they may haue one again: some allow only an annuall pension, reserving

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the maine to themselues by colour of a lease: some yet divide more equally, *share and share like*: and if any reserue only his owne tithe, hee is counted an honest theefe.

In this pitiful taking, or rather loosing, are now the seruants of God: thus are wee rewarded for our paines. Doe wee minister vnto you heavenly thinges, and wil not you giue vs, not yours, but our owne carnall thinges? In former ages, when people were truely religious, they thought they could never doe enough for their bodies, from whom they receiued the food of their soules. They were so farre from taking ought from them, that they studied cõtinually by al meanes to giue more vnto them. It is therefore a shrewd presumptiõ, that, howsoever men professe religion, and are contented to be called christians, yet their loue to christian religion is not great, whose loue is so little to the ministers thereof: The which vpon all occasions is ready to shew it selfe, not only in withholding from vs that which is due, but also in requiring of vs that which is not due.

Of which hard dealing the Ministers of Hãpshire haue had too good proofe. For whereas partly in respect of great payments in Tenthes & Firstfruits, besides extraordinarie Subsidies; and partly out of the loue, that anciently both Prince and people did beare to their cleargie, there was a law made, that *none of their goods* An.14.E.3. An.18.E.3. An.1.Ri.2.

should be taken for the provision of the Kings house; we are not suffered to haue the common freedome of subiects, and to enioy the benefite of the Kings law: but are enforced by our Gentlemen and Farmers to beare their burthen, and in effect to sel them corne for 10d. the bushell, when it is worth in the market halfe so many shillings. For whereas they pretend it is to the King, that is but a cloake to cover the evil: seeing his maiestie is either to haue of them the full sum agreed vpon by composition, or else to take it vp by his purveiers, as he doth in other countries: where the Ministers are yet free by vertue of that law. Why then are wee only vnlawfully oppressed?

So that, what with the new-found lay-parsonages, what with pretended immunities, what with hard lawes and harder constructiõs, what with vnwilling and false tithers, what with the subtil practises of Patrõs, & what with the vnkind dealing of many neighbours, the Priests portion is leaft so short, that the land must needes run into the opprobrious & scandalous sinne of *Ieroboam*, that made Priests of the lowest of the people. Which evils, with divers other grievãces of the Church, brought in by the corrupt innovations of Popery, and by the godlesse avarice of the people, are laid open in the *view of the Civile and ecclesiastical law*, written by that learned Doctor of the lawes

Master

Master Thomas Ridley Chan. of Wint. where al men may see the iniquitie and vnlawfulnes of them.

They which are any causes of these accursed evils, let them take heed to themselues in time, and with penitent mindes desist from this prophane and irreligious sacrilege: lest the curse of God overtake them, which hath already fallen heauy vpon the chiefe authors and actors of that sinne. For as to the principal, which was so ful of wiues and children, and did so flow in infinit sums and masses of gold & silver, himselfe saw the end of the one; which did sodainely consume and come to noũght: & wee haue seene the end of the other; for at this day God hath not least him one to sit in his seate, but in the next generation his name is cleane put out. And for the rest, some of them did pay the price of their impiety in their owne persons, as being vntimely & ignominiously cut of from the earth: others in their posterity, which are either quite rooted out, or line in obscuritie and contempt. That a man may say of them all, as the Prophet did of the wicked in his time, *I haue seene the vngodly in great prosperity, and florishing like a greene bay-tree. And I went by, & loe he was gon; I sought him, but his place could no where be found.*

Thinke not therefore (Christian Reader) to enrich thy selfe with sacrilege, or to advance

thy house by the ruin of the Church: for *except the Lord build the house, their labour is but lost that build it.* But build thou first the house of God, that so God may build thine, & set it vp for ever; accoũting thy estate to be thẽ most sure & happy, when thou dost best provide for the seruice of thy God, & for the necessity & decẽcie of his spouse the Church. And therefore, if it shall please our heauenly Father, to put into the religious hart of our most righteous King, to make enquirie of the wronges done vnto the Church that they may be righted, as formerly others haue made, and yet doe make after the Churches rights, that it might be wronged; in the feare of God and loue of religion, put to thy helping hand, and reioice to haue a part in so good a worke; that God may blesse thee and thine house, with present and future blessings.

In the meane space giue thou vnto God the things that are Gods: withhold not that part which is holy to the Lord: but pay iustly the tithes of his blessings, & namely of the fruits of these cõmodious creatures. Then shal God destill plentie of hony-dewes vnto thy Bees; and with the plentiful dew of heauen shall enrich the earth, that thou maist be enriched with the fruits thereof. They be the words of that holy Father S. *Augustine, Maiores nostri ideo copijs omnibus abundabant quia Deo decimas dabant.* Our

Homel. 48. 50. Homeliarum.

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Fathers did therefore abound in all riches, because they gaue their tithes to God: whom if thou wilt no heere, yet heere the truth it selfe. *Bring yee al the tithes into the store-house: that there may be meate in mine house: and proue me now herewith (saith the Lord of hosts) if I wil not open the windowes of heauen, and powre you out a blessing without measure.* Mal. 3. 10.

Now if, notwithstanding al this, against the vniforme doctrine and practise of the Church of Christ in the purer times, against the confirmations of godly Kinges and people, against the generall current of Fathers and Couucels teaching the law of tithe to be perpetual according to the word of God as wel in the new testament as in the old, there be any so refractarie as yet to say, that the tenth part, howsoever convenient, is not so necessarie but that it may be changed; let them consider that in good reason, if it should be changed, it should be changed into a greater or better part, rather then into a lesse: that as the worke of the Ministers is greater, better, and more glorious, then of the Priests; so they might be more honored, better regarded, and more liberally rewarded. But this kind of change is so vnfitting to these mens purpose; that I think they would chuse rather to change their opinion, & reteine stil the Ancient Catholike doctrine of the Church, *Leges diuinæ sacerdotibus & ministris ecclesiarum*

clesiarum consulentes, pro hæreditaria portione omni populo præceperunt decimas fructuum suorum sacris locis præstare.

FINIS.